

# **Form EIA-1605**

## **Voluntary Reporting of Greenhouse Gases**

**Revised Pursuant to 10 CFR Part 300  
Guidelines for Voluntary Greenhouse Gas Reporting**

# **DRAFT**

**Energy Information Administration  
U.S. Department of Energy**

November 9, 2006

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**NOTE: Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

**REPORTING YEAR** \_\_\_\_\_

*(Reporting Year is the calendar year for which you are reporting emissions. If this is a Start Year report, enter the Start Year.)*

**SCHEDULE I. ENTITY INFORMATION**

**SECTION 1. ENTITY STATEMENT**

1. Enter Entity Identification:

Entity Name: \_\_\_\_\_  
 Address 1: \_\_\_\_\_  
 Address 2: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_  
 Entity URL : \_\_\_\_\_  
 Entity Tax Payer Identification Number (optional): \_\_\_\_\_

2. Enter Contact Information:

Contact Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 *Contact address is the same as Entity Address*  
 Address 1: \_\_\_\_\_  
 Address 2: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_  
 Tel: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ ext.: \_\_\_\_\_  
 Fax: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

3. Enter Report Characteristics

- a. Report Type *(please check one)*:
- Reporting but not registering reductions - Start Year
  - Reporting but not registering reductions - Reporting Year
  - Registering reductions - Start Year
  - Registering reductions - Reporting Year
- b. Entity Type *(please check one)*:
- Large emitter (more than 10,000 metric tons carbon dioxide equivalent annually)
  - Small emitter (less than or equal to 10,000 metric tons carbon dioxide equivalent annually)
- c. Subentities *(please check one)*:
- This report includes subentity reports:  Yes  No
- d. Independent Verification
- This report been verified by an independent third party:  Yes  No

4. Indicate Any Significant Changes to Previous Entity Statement *(not applicable for Start Year reports)*

- The entity has not undergone significant changes since the last Voluntary Reporting of Greenhouse Gases report
  
- The entity has undergone significant changes since the last Voluntary Reporting of Greenhouse Gases report was filed. Please check the appropriate box below:
  - Data are being resubmitted for the base period:
    - For the entire entity
    - For one or more subsidiaries
  - New base period has been selected:
    - For the entire entity *(please describe)*: \_\_\_\_\_
  - For one or more subsidiaries *(describe in relevant subentity statement (Schedule II))*
  - Changes have been made in the entity's scope or organizational boundaries, of the following nature:
    - Acquisition or divestiture of discrete business units, subsidiaries, facilities or plants  
please describe: \_\_\_\_\_
    - Closure or opening of significant facilities  
please describe: \_\_\_\_\_
    - Transfer of economic activity to or from specific operations covered by a previous report  
please describe: \_\_\_\_\_
    - Significant changes in land holdings  
please describe: \_\_\_\_\_
    - Higher level of aggregation than in the previous year.  
List subsidiary entities now included, including a listing of any non-U.S. operations added and the specific countries in which the foreign operations are located: \_\_\_\_\_
    - Changes in activity or operations please specify:
      - Change in output
      - Change in contractual arrangements
      - Change in equipment and processes
      - Change in outsourcing or insourcing of significant activities
 Describe the change and explain its influence on reported emissions or sequestration: \_\_\_\_\_
  - Emission reduction calculation method changed
  - Other change, not listed above, please describe: \_\_\_\_\_

5. Identify the Entity's Primary Economic Activities (NAICS Code)

Identify the primary *(and secondary, if applicable)* 3-digit North American Industrial Classification System (NAICS) code for the entity *(a list of NAICS codes is offered in Appendix A)*:

Primary NAICS: \_\_\_ \_\_\_ \_\_\_

Secondary NAICS: \_\_\_ \_\_\_ \_\_\_

6. Enter the Entity Category

Select the category below that describes the entity:

- Corporation
  - Corporation Type (check one)*
    - Corporation (i.e., C Corporation; most corporations)
    - S Corporation
    - Limited Liability Corporation (LLC)
    - Limited Liability Partnership (LLP)
    - Partnership
    - Sole Proprietorship
    - Other, *specify:* \_\_\_\_\_
  - Public or Private Status (check one)*
    - Publicly Traded (*Stock ticker symbol:* \_\_\_\_\_)
    - Privately Held
  - Ownership Status (check one)*
    - Wholly Owned Subsidiary
    - Joint Venture (*partners:* \_\_\_\_\_)
    - Other Subsidiary
- Utility (Non-Investor Owned) (*check one*)
  - Cooperative
  - Municipal Utility
  - Municipal Cooperative
  - Other, *specify:* \_\_\_\_\_
- Government (*check one*)
  - Federal
  - State
  - Regional (*e.g., multi-state*)
  - Local (*e.g., city, county, or other sub-state level government*)
  - Native American Tribal Government
  - Other, *specify:* \_\_\_\_\_
- Government Corporation or Authority (*check one*)
  - Federal
  - State
  - Regional (*e.g., multi-state*)
  - Local (*e.g., city, county, or other sub-state level government*)
  - Other, *specify:* \_\_\_\_\_
- Non-Profit Organization
  - Cooperative (e.g., non-profit electric cooperative)
  - Trade Association (*specify type:*
    - Reporting on behalf of its members, specified in attached list
    - Reporting on its own achievements
- All other Non-Profit Organizations (*charities, fraternal orders, etc.*  
*Specify:* \_\_\_\_\_)
- Individual or Household
- Other, *specify:* \_\_\_\_\_

7. Describe the Entity Organization

Is your entity a holding company:  Yes  No

Identify your entity's Parent or Holding Company, if applicable: \_\_\_\_\_

8. Describe the Entity's Organizational Boundaries  
 a. Method for Determining Organizational Boundaries  
 Financial control

- Operational control. Explain how the use of this other approach results in organizational boundaries that differ from results of the financial control approach:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- Equity share. Explain how the use of this other approach results in organizational boundaries that differ from results of the financial control approach:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- Other. Describe method and explain how the use of this other approach results in organizational boundaries that differ from results of the financial control approach:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- b. List All Large Wholly Owned Subsidiaries Included in this Report:

Subsidiary Name	Primary NAICS

- c. List Any Large Partially Owned Subsidiary, Joint Venture, and Leased or Operated Emissions Source Included in This Report:

1	2	3	4	5	6
Name or Description of Emissions Source	Relationship to Reporting Entity	Partners	% Interest Held By Reporting Entity	Method for Determining Inclusion in Report	% of Emissions Included in This Report

- d. Additional Description of Organizational Boundaries (please describe, including criteria used for excluding any emissions sources, if applicable):

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

9. Describe the Geographic Scope of Activities (please check one)

- This report covers U.S. activities only  
 Nationwide (if operating in all 10 U.S. Census Regions)  
 Multiple States (if not nationwide, enter states using 2-letter abbreviations from Appendix B: \_\_\_\_\_)  
 Single State (enter 2-letter abbreviation for state from Appendix B: \_\_\_\_\_)

- This report covers U.S. and Non-U.S. activities
  - U.S. Activities:
    - Nationwide (if operating in all 10 U.S. Census Regions)
    - Multiple States (if not nationwide, enter states using 2-letter abbreviations from Appendix B: \_\_\_\_\_)
    - Single State (enter 2-letter abbreviation for state from Appendix B: \_\_\_\_\_)

Foreign Activities: List all foreign countries in which reported activities occurred using the 3-digit codes found in Appendix C, and the NAICS code that best corresponds to the primary activity in that country from Appendix A:

Country	Primary NAICS code
_____	_____
_____	_____
_____	_____
_____	_____

10. Describe the Scope of the Emissions Inventory  
 Check the types of emission sources or sinks that are covered in the emissions inventory:
- Stationary source combustion
  - Mobile source combustion
  - Industrial processes
  - Agricultural sources
  - Fugitive emissions from geologic reservoirs
  - Indirect emissions from purchased energy
  - Other indirect emissions
  - Terrestrial carbon fluxes and stocks

11. Describe the Entity Base Period  
 Indicate number of years in the Base Period:  1       2       3       4  
 Enter last year in Base Period: \_\_\_\_\_  
 Check here if you are reporting subsidiaries that use a different base period from the entity

12. Describe Any Entity Program Affiliation(s)
- Domestic Voluntary Initiatives*  
 List the voluntary GHG-reduction initiative(s) with which the entity has an affiliation (see list of codes in Appendix D):  
 \_\_\_\_\_ Other, specify: \_\_\_\_\_
- Domestic Registries and Exchanges*  
 List the U.S. GHG registry(ies) and/or exchange(s) with which the entity has an affiliation (see list of codes in Appendix D):  
 \_\_\_\_\_ Other, specify: \_\_\_\_\_
- International Registries and Exchanges*  
 List the non-U.S. GHG registry(ies) and/or exchange(s) with which the entity has an affiliation (see list of codes in Appendix D):  
 \_\_\_\_\_ Other, specify: \_\_\_\_\_

13. Request Confidentiality of Entity Information

Check box if applicable:

- Requesting confidential treatment for the information reported on this form. *(NOTE that you must provide the specific reasons in the space below or attached sheets for DOE to consider your request. Your reasons should explain that the information being reported is financial or commercial information and why you claim it is confidential or privileged.)*

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14. Enter Supplementary Information for Entity

Use this space (and attach additional sheets if necessary) to supply any supporting information you feel helps explain your entity or report that is not accommodated directly in this reporting form.

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**SECTION 2. ENTITY EMISSIONS INVENTORY**

Check box if all methods used to estimate emissions and sequestration have a B rating or higher. If checked, do not complete “Weighted Rating” column of Parts A, B, C, and D, and skip Part E completely.

**Part A. Aggregated Emissions by Gas (for independently verified reports only)**

1. Enter Aggregated Domestic Emissions by Gas (for independently verified reports only)

1	2	3	4	6					9	10	11
Item	Source	Gas	Units	Base Period Emissions or Carbon Flux					Reporting Year Emissions or Carbon Flux	Weighted Rating	
				Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average			
A	Direct Emissions										
A1	Carbon Dioxide	CO <sub>2</sub>									
A2	Methane	CH <sub>4</sub>									
A3	Nitrous Oxide	N <sub>2</sub> O									
A4	Sulfur Hexafluoride	SF <sub>6</sub>									
A5	HFC (Specify)										
A6	PFC (Specify)										
A7	CFC (Specify)										
B	Indirect Emissions from Purchased Energy (Inventory)	CO <sub>2</sub>									
C	Indirect Emissions from Purchased Energy (Inventory)	CH <sub>4</sub>									
D	Indirect Emissions from Purchased Energy (Inventory)	N <sub>2</sub> O									
E	Indirect Emissions from Purchased Energy (Reductions)	CO <sub>2</sub>									
F	Indirect Emissions from Purchased Energy (Reductions)	CH <sub>4</sub>									
G	Indirect Emissions from Purchased Energy (Reductions)	N <sub>2</sub> O									
H	Carbon Flux	CO <sub>2</sub>									
I	Other Indirect Emissions										
I1	Carbon Dioxide	CO <sub>2</sub>									
I2	Methane	CH <sub>4</sub>									
I3	Nitrous Oxide	N <sub>2</sub> O									
I4	Sulfur Hexafluoride	SF <sub>6</sub>									
I5	HFC (Specify)										
I6	PFC (Specify)										
I7	CFC (Specify)										

1	2	3	4	5	6	7	8	9	10	11
Item	Source	Gas	Units	Base Period Emissions or Carbon Flux					Reporting Year Emissions or Carbon Flux	Weighted Rating
				Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average		
J	Captured CO <sub>2</sub> Sequestered in an onsite Geologic Reservoir	CO <sub>2</sub>								
K	Captured CO <sub>2</sub> Transferred to Another Entity for Sequestration in a Geologic Reservoir	CO <sub>2</sub>								

2. Enter Aggregated Foreign Emissions by Gas (for independently verified reports only)

1	2	3	4	5	6	7	8	9	10	11
Item	Source	Gas	Units	Base Period Emissions or Carbon Flux					Reporting Year Emissions or Carbon Flux	Weighted Rating
				Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average		
A	Direct Emissions									
A1	Carbon Dioxide	CO <sub>2</sub>								
A2	Methane	CH <sub>4</sub>								
A3	Nitrous Oxide	N <sub>2</sub> O								
A4	Sulfur Hexafluoride	SF <sub>6</sub>								
A5	HFC (Specify)									
A6	PFC (Specify)									
A7	CFC (Specify)									
B	Indirect Emissions from Purchased Energy (Inventory)	CO <sub>2</sub>								
C	Indirect Emissions from Purchased Energy (Inventory)	CH <sub>4</sub>								
D	Indirect Emissions from Purchased Energy (Inventory)	N <sub>2</sub> O								
E	Indirect Emissions from Purchased Energy (Reductions)	CO <sub>2</sub>								
F	Indirect Emissions from Purchased Energy (Reductions)	CH <sub>4</sub>								
G	Indirect Emissions from Purchased Energy (Reductions)	N <sub>2</sub> O								
H	Carbon Flux	CO <sub>2</sub>								
I	Other Indirect Emissions									
I1	Carbon Dioxide	CO <sub>2</sub>								
I2	Methane	CH <sub>4</sub>								
I3	Nitrous Oxide	N <sub>2</sub> O								

1	2	3	4	5	6	7	8	9	10	11
Item	Source	Gas	Units	Base Period Emissions or Carbon Flux					Reporting Year Emissions or Carbon Flux	Weighted Rating
				Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average		
I4	Sulfur Hexafluoride	SF <sub>6</sub>								
I5	HFC (Specify)									
I6	PFC (Specify)									
I7	CFC (Specify)									
J	Captured CO <sub>2</sub> Sequestered in an onsite Geologic Reservoir	CO <sub>2</sub>								
K	Captured CO <sub>2</sub> Transferred to Another Entity for Sequestration in a Geologic Reservoir	CO <sub>2</sub>								

**Part B. Inventory of Domestic Emissions and Carbon Flux** (optional for independently verified reports)

1. Enter Direct Emissions

a. Stationary Combustion *(incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)*

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions					Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average			
Fossil Fuel Combustion	CO <sub>2</sub>									
Fossil Fuel Combustion	CH <sub>4</sub>									
Fossil Fuel Combustion	N <sub>2</sub> O									
Non-Standard Fuel Combustion	CO <sub>2</sub>									
Non-Standard Fuel Combustion	CH <sub>4</sub>									
Non-Standard Fuel Combustion	N <sub>2</sub> O									
Waste Fuels Combustion	CO <sub>2</sub>									
Waste Fuels Combustion	CH <sub>4</sub>									
Waste Fuels Combustion	N <sub>2</sub> O									
Biomass Combustion	CH <sub>4</sub>									
Biomass Combustion	N <sub>2</sub> O									
Nonfuel Use of Fossil Fuels	CO <sub>2</sub>									
<b>Subtotal</b>	CO <sub>2</sub> e									

b. Mobile Sources (incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Highway Vehicles	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Off-Road Vehicles	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Marine Vessels	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Aircraft	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Mobile Refrigeration and Air Conditioning	HFC-134a									
<b>Subtotal</b>	CO <sub>2</sub> e									

c. Sector-Specific Industrial Process Emissions *(incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)*

1	2	3	4	5	6	7	8	9	10	11
Process/Fugitive Emissions	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
<b>Industrial Processes</b>										
Adipic Acid production	N <sub>2</sub> O									
Aluminum Production (CO <sub>2</sub> only)	CO <sub>2</sub>									
Ammonia Production	CO <sub>2</sub>									
Cement Production	CO <sub>2</sub>									
Hydrogen Production	CO <sub>2</sub>									
Iron and Steel Production	CO <sub>2</sub>									
	CH <sub>4</sub>									
Lime Production	CO <sub>2</sub>									
Limestone and Dolomite Use	CO <sub>2</sub>									
Methanol Production	CO <sub>2</sub>									
Nitric Acid Production	N <sub>2</sub> O									
Soda Ash Production and Use	CO <sub>2</sub>									

c. Sector-Specific Industrial Process Emissions (continued)

1	2	3	4	5	6	7	8	9	10	11
Process/Fugitive Emissions	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
<b>Energy</b>										
Coal Mines	CH <sub>4</sub>									
Oil and Natural Gas Industries	CH <sub>4</sub>									
	CO <sub>2</sub>									
	N <sub>2</sub> O									
<b>Waste Handling</b>										
Domestic and Industrial Wastewater Handling	CH <sub>4</sub>									
	N <sub>2</sub> O									
Landfills	CH <sub>4</sub>									
<b>High GWP Gases</b>										
HCFC-22 Production	HFC-23									
Aluminum Production (specify gas)										
Electricity Generation, Transmission, and Distribution	SF <sub>6</sub>									
Magnesium Production	SF <sub>6</sub>									
Semiconductor Manufacture	PFCs/HFCs									
	SF <sub>6</sub>									
<b>Other Industrial Process Sources</b>										
Other	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
	SF <sub>6</sub>									
	PFCs									
	HFCs									
<b>Subtotal</b>	CO <sub>2</sub> e									

d. Agricultural Sources (incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Enteric Fermentation	CH <sub>4</sub>									
Livestock Waste	CH <sub>4</sub>									
	N <sub>2</sub> O									
Residue Burning	N <sub>2</sub> O									
	CH <sub>4</sub>									
Rice Cultivation – 1 <sup>st</sup> Harvest	CH <sub>4</sub>									
Rice Cultivation – 2 <sup>nd</sup> ("ratoon") harvest	CH <sub>4</sub>									
Agricultural Soils – Nitrogen Application	N <sub>2</sub> O									
Agricultural Soils – Organic Soils	N <sub>2</sub> O									
Lime Application	CO <sub>2</sub>									
Cultivation of Organic Soils	CO <sub>2</sub>									
Other: _____										
<b>Subtotal</b>	CO <sub>2</sub> e									

e. Fugitive Emissions Associated With Geologic Reservoirs

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Fugitive Emissions From the Extraction of Naturally Occurring CO <sub>2</sub>	CO <sub>2</sub> e									
Fugitive Emissions From the Extraction of CO <sub>2</sub> From Anthropogenic Sources	CO <sub>2</sub> e									
Fugitive Emissions During Transport and Processing	CO <sub>2</sub> e									
Fugitive Emissions During Injection and Extraction for Enhanced Resource Recovery	CO <sub>2</sub> e									
Post-Injection Seepage From Permanent Geologic Storage Reservoir	CO <sub>2</sub> e									

f. Captured CO<sub>2</sub> Emissions from Anthropogenic Sources (*captured CO<sub>2</sub> emissions should also be included as emissions in Questions 1a through 1d above*).

1	2	3	4	5	6	7	8	9
Source	Gas	Unit of Measure	Base Period Average Quantity			Reporting Year Quantity		
			Onsite	Offsite	Total	Onsite	Offsite	Total
1. Stationary Combustion	CO <sub>2</sub> e	metric tons						
2. Sector-Specific Industrial Process Emissions	CO <sub>2</sub> e	metric tons						
3. Other								
<b>Subtotals</b>	CO <sub>2</sub> e	metric tons						

2. Enter Indirect Emissions From Purchased Energy

a. Physical Quantities of Energy Purchased

1	2	3	4	5	6	7	8	9
Source	Units	Base Period Consumption					Reporting Year Consumption	System Type/Fuel Used for Generation
		Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average		
Electricity								
Steam								
Hot Water								
Chilled Water								

b. Emissions from Purchased Energy for Emissions Inventory

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions					Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average			
Electricity (for emissions inventory)	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Steam	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Hot Water	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Chilled Water	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
<b>Total</b>	CO <sub>2</sub> e									

c. Emissions from Purchased Energy for Calculating Emissions Reductions in Addendum B (Not included in emissions inventory. Complete only if calculating reductions at the entity-level using Addendum B1 or B2.)

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Electricity (for emissions reductions)	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Steam, Hot Water, and Chilled Water*	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
<b>Total</b>	CO <sub>2</sub> e									

\*Sum emissions reported for these sources in Question 2b above.

3. Other Indirect Emissions\*

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Employee Commuting										
Manufacture & Sale of Energy Efficient Products										
Consumption of Energy-intensive Products										
<b>Other:</b>										
<b>Subtotal</b>	CO <sub>2</sub> e									

\*Do not include in emission inventory.

4. Enter Terrestrial Carbon Fluxes and Stocks

a. Forestry Activities

1	2	3	4	5	6	7	8	9
Categories	Gas	Units	Carbon Stocks			Reporting Year Stock Change or Carbon Flux <sup>1,2</sup>	Estimation Method <sup>3</sup>	Rating
			Base Period Average	Estimated Carbon Stocks in Year Prior to Reporting Year	Reporting Year Carbon Stocks			
Afforestation, Mine Land Reclamation, and Forest Restoration	CO <sub>2</sub>							
Agroforestry	CO <sub>2</sub>							
Forest Management <sup>4</sup>	CO <sub>2</sub>							
Short-rotation Biomass Energy Plantations	CO <sub>2</sub>							
Urban Forestry	CO <sub>2</sub>							
Timber Harvesting <sup>5</sup>	CO <sub>2</sub>							
Other <sup>6</sup>	CO <sub>2</sub>							
<b>Total</b>	CO <sub>2</sub>							

<sup>1</sup> Carbon flux can be positive or negative; positive values indicate a net increase in terrestrial carbon stocks; negative values indicate a net loss of carbon to the atmosphere, i.e., emissions. Carbon flux may be calculated directly using flux based approaches or as the change in carbon stocks between the reporting year and the previous year.

<sup>2</sup> Reporters using methods that estimate carbon flux only should enter a carbon flux value in the column "Reporting Year Stock Change or Carbon Flux" and leave columns blank for Carbon Stock data.

<sup>3</sup> Methods include lookup tables, models, measurement, or a combination of these methods. If using a model, please indicate the name.

<sup>4</sup> Forest management includes management decisions taken at any stage of forest rotation. Forest preservation is a special case and is reported separately in Question 4c below.

<sup>5</sup> Timber harvesting includes CO<sub>2</sub> emissions from the harvest of timber. Activities such as thinning should be included under Forest Management.

<sup>6</sup> "Other" includes activities not covered in the previous categories practiced by landowners that may result in changes in carbon fluxes or stocks.

b. Wood Products:

i Method 1: Track and report emissions in year they occur.

1	2	3	4	5	6	7	8
Category	Gas	Units	Estimated Carbon Stocks in Harvested Wood Products in Year Prior to Reporting Year	Estimated Carbon Stocks in Harvested Wood Products in Reporting Year	Reporting Year Stock Change	Estimation Method	Rating
Wood Products	CO <sub>2</sub>						

ii Method 2: Estimate and report residual carbon after 100 years in reporting year.

1	2	3	4	5	6	7
Category	Gas	Units	Stock of Carbon in Harvested Wood	100 year Residual Carbon Stock	Estimation Method	Rating
Wood products	CO <sub>2</sub>					

c. Land Restoration and Forest Preservation

Entity certifies that it has restored native habitat on land and placed administrative restrictions on the land to ensure that human-caused releases of carbon from the lands do not occur in the future.

1	2	3	4	5	6	7	8
Name/Description of Tract of Land	Type of Restriction (e.g., Easement, Deed Restrictions, etc.)	Year Protected	Area (Acres)	Units	50% of Carbon Stock Accumulated in 50 Years from Inception of Preservation Activity	Estimation Method	Rating
1.							
2.							
3.							
4.							
<b>Total</b>							

d. Forest Land That Experiences Carbon Losses From Natural Disturbances

This table documents carbon stock changes on each tract of disturbed lands and should be used until carbon stocks reach pre-disturbance levels.

1	2	3	4	5	6	7	8	9	10	11
Name/Description Tract of Land	Area (Acres)	Type of Disturbance	Year	Units	Carbon Stocks			Loss	Estimation Method	Rating
					Base Period Average	Carbon Stocks in Year Before Disturbance	Reporting Year Carbon Stocks			
1.										
2.										
3.										
4.										
<b>Total</b>										

e. Sustainably Managed Forests

1	2	3	4
Name/Description of Tract of Land	Area (Acres)	Has Sustainability Been Verified by Third Party Certifier (Y/N)	Identify System Used to Determine Sustainability
1.			
2.			
3.			
4.			
<b>Total</b>			

f. Incidental Lands Excluded From Terrestrial Carbon Fluxes and Stocks in Question 4a

1	2	3
Name/Description of Tract of Land	Type of Land	Area (Acres)
1.		
2.		
3.		
4.		
<b>Total</b>		

g. Other Terrestrial Carbon Fluxes

1	2	3	4	5	6	7	8	9
Categories	Gas	Units	Carbon Stocks			Reporting Year Stock Change or Carbon Flux <sup>1,2</sup>	Estimation Method <sup>3</sup>	Rating
			Base Period Average	Estimated Carbon Stocks in Year Prior to Reporting Year	Estimated Carbon Stock in Reporting Year			
Crops on Mineral Soils	CO <sub>2</sub>							
Pasture/Grazing	CO <sub>2</sub>							
Land Use Change	CO <sub>2</sub>							
Other:	CO <sub>2</sub>							
<b>Total</b>	CO <sub>2</sub>							

<sup>1</sup> Carbon flux can be positive or negative; positive values indicate a net increase in terrestrial carbon stocks; negative values indicate a net loss of carbon to the atmosphere, i.e., emissions. Carbon flux may be calculated directly using flux based approaches or as the change in carbon stocks between the reporting year and the previous year.

<sup>2</sup> Reporters using methods that estimate carbon flux only should enter a carbon flux value in the column "Reporting Year Stock Change or Carbon Flux" and leave columns blank for Carbon Stock data.

<sup>3</sup> Methods include lookup tables, models, measurement, or a combination of these methods. If using a model, please indicate the name.

h. Terrestrial Carbon Flux Summary

1	2	3	4	5
Categories	Gas	Units	Reporting Year Stock Change or Carbon Flux	Rating
Forestry Activities	CO <sub>2</sub>			
Wood Products Method 1	CO <sub>2</sub>			
Wood Products Method 2	CO <sub>2</sub>			
Land Restoration and Forest Preservation	CO <sub>2</sub>			
Sustainably Managed Forests	CO <sub>2</sub>			
Incidental Lands	CO <sub>2</sub>			
Other Terrestrial Carbon Fluxes	CO <sub>2</sub>			
<b>Total Reporting Year Terrestrial Carbon Flux</b>	CO <sub>2</sub>			

5. Identify and Estimate De Minimis Emissions Sources

1	2	3	4	5	6	7
Emissions Type	Emissions Source	Gas	Unit of Measure	Base Period Average Emissions	Reporting Year Emissions	Year Last Estimated
<b>TOTAL</b>		CO <sub>2</sub> e	metric tons			

**Part C. Inventory of Foreign Emissions and Carbon Flux** (optional for independently verified reports)

Complete and attach one copy of Addendum A, Inventory of Foreign or Subentity Emissions.

**Part D. Total Emissions and Carbon Flux**

1. Enter Total Domestic Emissions and Carbon Flux

Item	1	2	3	4	5	6	7	8
	Source	Gas/ Units	Base Period Emissions					Reporting Year Emissions or Carbon Flux
			Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average	
A	Direct Emissions	mtCO <sub>2</sub> e						
B	Indirect Emissions from Purchased Energy for Emissions Inventory	mtCO <sub>2</sub> e						
C	Indirect Emissions from Purchased Energy for Calculation of Emission Reductions	mtCO <sub>2</sub> e						
D	<b>Total Emissions (A + B)*</b>	mtCO <sub>2</sub> e						
E	Carbon Flux	mtCO <sub>2</sub> e						
F	Captured CO <sub>2</sub> Sequestered in an Onsite Geologic Reservoir**	mtCO <sub>2</sub> e						
G	<b>Total Inventory Emissions (D – E – F)</b>	mtCO <sub>2</sub> e						
H	Other Indirect Emissions**	mtCO <sub>2</sub> e						
I	Captured CO <sub>2</sub> Transferred to Another Entity for Sequestration in a Geologic Reservoir	mtCO <sub>2</sub> e						

mtCO<sub>2</sub>e = metric tons carbon dioxide equivalent

\*Do not include Indirect Emissions from Purchased Energy for Calculation of Emission Reductions (Item C) in Total Emissions.

\*\*Do not include CO<sub>2</sub> extracted and captured from natural sources or CO<sub>2</sub> recycled during enhanced resource recovery operations.

2. Enter Total Foreign Emissions and Carbon Flux

Item	1	2	3	4	5	6	7	8
	Source	Gas/ Units	Base Period Emissions					Reporting Year Emissions or Carbon Flux
			Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average	
A	Direct Emissions	mtCO <sub>2</sub> e						
B	Indirect Emissions from Purchased Energy for Emissions Inventory	mtCO <sub>2</sub> e						
C	Indirect Emissions from Purchased Energy for Calculation of Emission Reductions	mtCO <sub>2</sub> e						
D	<b>Total Emissions (A + B)*</b>	mtCO <sub>2</sub> e						
E	Carbon Flux	mtCO <sub>2</sub> e						
F	Captured CO <sub>2</sub> Sequestered in an Onsite Geologic Reservoir**	mtCO <sub>2</sub> e						
G	<b>Total Inventory Emissions (D – E – F)</b>	mtCO <sub>2</sub> e						
H	Other Indirect Emissions**	mtCO <sub>2</sub> e						
I	Captured CO <sub>2</sub> Transferred to Another Entity for Sequestration in a Geologic Reservoir	mtCO <sub>2</sub> e						

mtCO<sub>2</sub>e = metric tons carbon dioxide equivalent

\*Do not include Indirect Emissions from Purchased Energy for Calculation of Emission Reductions (Item C) in Total Emissions.

\*\*Do not include CO<sub>2</sub> extracted and captured from natural sources or CO<sub>2</sub> recycled during enhanced resource recovery operations.

**Part E. Emissions Inventory Rating Summary**

Do not complete Part E if all the methods used to estimate reductions were rated B or higher.  
 If this is a Start Year Report, complete Question 1 only.

If this is a Reporting Year Report, complete Question 2 for reporting year data; complete Question 1 only if you have submitted revised base period emissions data.

1. Enter Base Period Data (include both domestic and foreign sources)

1	2	3	4	5	6	7
Rating Category	Weighting Factor	Direct Emissions	Indirect Emissions from Purchased Energy	Carbon Flux	Total Emissions <sup>1</sup>	Weighted Total Emissions <sup>2</sup>
A	4					
B	3					
C	2					
D	1					
<b>Totals<sup>3</sup></b>						
<b>Weighted Average Rating<sup>4</sup></b>						

<sup>1</sup> Sum Columns 3, 4 and 5 and enter result in Column 6 to get Total Emissions by Rating Category.

<sup>2</sup> Calculate Weighted Emissions by Rating Category by multiplying Column 2 by Column 6.

<sup>3</sup> Sum values for Total Emissions (Column 6) and Weighted Total Emissions (Column 7) and enter in the Totals row.

<sup>4</sup> Calculate Inventory Weighted Average Rating by dividing Weighted Total Emissions (Column 7) in the Totals row by Total Emissions (Column 6) in the Totals row.

## 2. Enter Reporting Year Data (include both domestic and foreign sources)

1	2	3	4	5	6	7
Rating Category	Weighting Factor	Direct Emissions	Indirect Emissions from Purchased Energy	Carbon Flux	Total Emissions and Carbon Flux <sup>1</sup>	Weighted Total Emissions and Carbon Flux <sup>2</sup>
A	4					
B	3					
C	2					
D	1					
<b>Totals<sup>3</sup></b>						
<b>Weighted Average Rating<sup>4</sup></b>						

<sup>1</sup> Sum Columns 3, 4 and 5 and enter result in Column 6 to get Total Emissions by Rating Category.

<sup>2</sup> Calculate Weighted Emissions and Carbon Flux by Rating Category by multiplying Column 2 by Column 6.

<sup>3</sup> Sum values for Total Emissions (Column 6) and Weighted Total Emissions and Carbon Flux (Column 7) and enter in the Totals row.

<sup>4</sup> Calculate Inventory Weighted Average Rating by dividing Weighted Total Emissions (Column 7) in the Totals row by Total Emissions (Column 6) in the Totals row.





#### **SECTION 4. ENTITY-LEVEL EMISSION REDUCTIONS**

If you are estimating reductions for the entire entity or for just one portion of your entity, complete and attach one copy of the appropriate addendum (Addendum B1-B16) for the method used to estimate the reduction. If you are estimating reductions for two or more subentities, proceed to Schedule II.

## SCHEDULE II. SUBENTITY INFORMATION

### SECTION 1. SUBENTITY STATEMENT

1. Enter the Subentity Identification:

Subentity Name: \_\_\_\_\_

Description: \_\_\_\_\_

Relationship to Entity (describe): \_\_\_\_\_

2. Enter the Reason for Delineation of Subentity (*please check all that apply and explain below*):

Distinct Estimation Method; indicate method employed (check only one)

Changes in Emissions Intensity

Changes in Absolute Emissions

Changes in Carbon Storage

Changes in Avoided Emissions

Action-Specific Emission Reductions

Emission Reductions from Energy Generation and Distribution

Distinct Output Metric (for intensity calculation), indicate Metric used: \_\_\_\_\_

Foreign Country Operations, specify country(ies): \_\_\_\_\_

Distinct Base Period from Other Subentities (for new or acquired operations)

Emission Reduction Calculation Method Changed

Not Practicable to Assess Change in Net Emissions for the Following Reasons:

\_\_\_\_\_

3. Enter Any Significant Changes to Previous Subentity Statement (*if applicable*):

The subentity has not undergone significant change since the last Voluntary Reporting of Greenhouse Gases report.

The subentity was not included in the previous report

The subentity's primary activity is new

The subentity's primary activity existed prior to this report

The subentity was not included in any other entity's previous reports

The subentity was included in another entity's previous reports, please explain:

The subentity was included in the previous report, but has undergone significant changes, as follows:

Data are being resubmitted for previous baseline years

New baseline year(s) have been selected.

Briefly describe the significant changes since the most recent Voluntary Reporting of Greenhouse Gases Program report filed:

\_\_\_\_\_

\_\_\_\_\_

4. Describe the Subentity's Primary Economic Activities (NAICS Code):

Enter the primary (*and secondary, if applicable*) 3-digit North American Industrial Classification System (NAICS) code for the subentity (*A list of NAICS codes is provided in Appendix A*):

Primary NAICS: \_\_\_ \_\_\_ \_\_\_

Secondary NAICS: \_\_\_ \_\_\_ \_\_\_

5. Describe the Organizational Boundaries of Subentity:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Describe the Scope of the Emissions Inventory

Check the types of emission sources or sinks that are covered in the emissions inventory:

- Stationary Source Combustion
- Fugitive Emissions from Geologic Reservoirs
- Mobile Source Combustion
- Indirect Emissions from Purchased Energy
- Industrial Processes
- Other Indirect Emissions
- Agricultural Sources
- Terrestrial Carbon Fluxes and Stocks

7. Describe the Geographic Scope of Activities (check the applicable box)

- This report covers U.S. activities only
  - Nationwide (if operating in all 10 U.S. Census Regions)
  - Multiple States (if not nationwide, select state codes from Appendix B: \_\_\_\_\_)
  - Single State (select state code from Appendix B: \_\_\_\_\_)
- This subentity covers only non-U.S. activities  
(Required, if applicable) List the foreign country in which reported activities occurred, using the 3-digit codes found in Appendix C: \_\_\_\_\_

8. Indicate the Inclusion of Emission Reductions

Are emission reductions included in this year's subentity report?

- Yes
- No, please explain: \_\_\_\_\_

9. Define the Subentity Base Period

Indicate number of years in the Base Period:  1  2  3  4  
 Enter last year in Base Period: \_\_\_\_\_

10. Enter Any Supplementary Information for the Subentity

Use this space (and attach additional sheets if necessary) to supply any supporting information you feel helps explain your entity or report that isn't accommodated directly in this reporting form.

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**SECTION 2. SUBENTITY EMISSIONS INVENTORY**

Complete and attach Addendum A, Inventory of Foreign or Subentity Emissions.

**SECTION 3. SUMMARY OF EMISSION REDUCTIONS FROM SUBENTITIES**

Complete and attach the appropriate form from Addendum B1-B16 for each subentity.

**SCHEDULE III. EMISSION REDUCTIONS****SECTION 1. REGISTERED EMISSION REDUCTIONS**

**Part A. Enter Domestic Net Entity-Level Registered Reductions and Carbon Storage** (metric tons CO<sub>2e</sub>)

Item	1	2	3	4
	Method/Source	Emission Reductions		
		Gross Registered Reductions	Registered Reductions Distributed to Other Reporters	Net Registered Reductions (Subtract column 3 from column 2)
A	Changes in Emissions Intensity			
A1	Direct			
A2	Indirect from Purchased Energy			
B	Changes in Absolute Emissions			
B1	Direct			
B2	Indirect from Purchased Energy			
C	Changes in Carbon Storage			
D	Changes in Avoided Emissions			
E	Energy Generation and Distribution			
F	Coal Mine Methane Gas Recovery			
G	Landfill Methane Recovery			
H	Geologic Sequestration			
I	Transmission and Distribution Improvements			
J	Capture of Methane from Anaerobic Digestion at Wastewater Treatment Facilities			
K	Capture of Methane from Anaerobic Digestion of Animal Waste			
L	Recycling of Fly Ash			
M	Demand-Side Management or Other Emission Reduction Programs			
N	Combined Heat and Power			
O	Other Action-specific Methods			
O1	Direct			
O2	Indirect from Purchased Energy			
P	<b>Subtotal</b> (Sum rows A1 through O)			
Q	Offsets			
Q1	Offsets Obtained from Other Reporters			
Q2	Offsets Obtained from Non-reporters			
R	<b>Subtotal</b> (Sum rows P through Q2)			
S	Reduction Deficits Carried Over from Last Year's Report (From Schedule III, Section 1, Part A, Item T in Last Year's Report. If negative, enter value. If zero or positive, enter zero.)			
T	<b>TOTAL</b> (Add row R to row S)			

**Part B. Enter Foreign Net Entity-Level Registered Reductions and Carbon Storage** (metric tons CO<sub>2</sub>e)

Item	Method/Source	1	2	3	4
		Emission Reductions			
		Gross Registered Reductions	Registered Reductions Distributed to Other Reporters	Net Registered Reductions (Subtract column 3 from column 2)	
A	Changes in Emissions Intensity				
A1	Direct				
A2	Indirect from Purchased Energy				
B	Changes in Absolute Emissions				
B1	Direct				
B2	Indirect from Purchased Energy				
C	Changes in Carbon Storage				
D	Changes in Avoided Emissions				
E	Energy Generation and Distribution				
F	Coal Mine Methane Gas Recovery				
G	Landfill Methane Recovery				
H	Geologic Sequestration				
I	Transmission and Distribution Improvements				
J	Capture of Methane from Anaerobic Digestion at Wastewater Treatment Facilities				
K	Capture of Methane from Anaerobic Digestion of Animal Waste				
L	Recycling of Fly Ash				
M	Demand-Side Management or Other Emission Reduction Programs				
N	Combined Heat and Power				
O	Other Action-specific Methods				
O1	Direct				
O2	Indirect from Purchased Energy				
P	<b>Subtotal</b> (Sum rows A1 through O)				
Q	Offsets				
Q1	Offsets Obtained from Other Reporters				
Q2	Offsets Obtained from Non-reporters				
R	<b>Subtotal</b> (Sum rows P through Q2)				
S	Reduction Deficits Carried Over from Last Year's Report (From Schedule III, Section 1, Part B, Item T in Last Year's Report. If negative, enter value. If zero or positive, enter zero.)				
T	<b>TOTAL</b> (Add row R to row S)				

## SECTION 2. REPORTED BUT NOT REGISTERED EMISSION REDUCTIONS

## Part A. Enter Domestic Net Entity-Level Reported but not Registered Reductions and Carbon Storage

Item	1	2	3	4
	Method/Source	Emission Reductions		
		Gross Reported Reductions	Reported Reductions Distributed to Other Reporters	Net Reported Reductions (Subtract column 3 from column 2)
<b>Carbon Dioxide, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride (metric tons CO<sub>2</sub>e)</b>				
A	Changes in Emissions Intensity			
A1	Direct			
A2	Indirect from Purchased Energy			
A3	Other Indirect			
B	Changes in Absolute Emissions			
B1	Direct			
B2	Indirect from Purchased Energy			
B3	Other Indirect			
C	Changes in Carbon Storage			
D	Changes in Avoided Emissions			
E	Energy Generation and Distribution			
F	Coal Mine Methane Gas Recovery			
G	Landfill Methane Recovery			
H	Geologic Sequestration			
I	Transmission and Distribution Improvements			
J	Capture of Methane from Anaerobic Digestion at Wastewater Treatment Facilities			
K	Capture of Methane from Anaerobic Digestion of Animal Waste			
L	Recycling of Fly Ash			
M	Demand-Side Management or Other Emission Reduction Programs			
N	Combined Heat and Power			
O	Other Action-specific Methods			
O1	Direct			
O2	Indirect from Purchased Energy			
O3	Other Indirect			
P	<b>Subtotal (Sum rows A1 through O)</b>			

Item	1	2	3	4
	Method/Source	Emission Reductions		
		Gross Reported Reductions	Reported Reductions Distributed to Other Reporters	Net Reported Reductions (Subtract column 3 from column 2)
<b>Carbon Dioxide, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride</b> (metric tons CO <sub>2</sub> e)				
Q	Offsets			
Q1	Offsets Obtained from Other Reporters			
Q2	Offsets Obtained from Non-reporters			
R	<b>Subtotal</b> (Sum rows P through Q2)			
S	Reduction Deficits Carried Over from Last Year's Report (From Schedule III, Section 2, Part A, Item T in Last Year's Report. If negative, enter value. If zero or positive, enter zero.)			
T	<b>TOTAL</b> (Add row R to row S)			
U	Emission Reductions Also Registered as Emission Intensity Reductions			
<b>Chlorofluorocarbons (CFCs)</b> (Kilograms of native gas) <i>Attach additional copies of Part C if reporting reductions in domestic emissions of more than one CFC.</i>				
V	Destruction of CFCs. Specify CFC: _____			
W	Reduction Deficit for this CFC Carried Over from Last Year's Report (From Schedule III, Section 2, Part A, Item X in Last Year's Report. If negative, enter value. If zero or positive, enter zero.)			
X	<b>TOTAL</b> (Add row V to row W)			

**Part B. Enter Foreign Net Entity-Level Reported but not Registered Reductions and Carbon Storage**

Item	1	2	3	4
	Method/Source	Emission Reductions		
		Gross Reported Reductions	Reported Reductions Distributed to Other Reporters	Net Reported Reductions (Subtract column 3 from column 2)
<b>Carbon Dioxide, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride (metric tons CO<sub>2</sub>e)</b>				
A	Changes in Emissions Intensity			
A1	Direct			
A2	Indirect from Purchased Energy			
A3	Other Indirect			
B	Changes in Absolute Emissions			
B1	Direct			
B2	Indirect from Purchased Energy			
B3	Other Indirect			
C	Changes in Carbon Storage			
D	Changes in Avoided Emissions			
E	Energy Generation and Distribution			
F	Coal Mine Methane Gas Recovery			
G	Landfill Methane Recovery			
H	Geologic Sequestration			
I	Transmission and Distribution Improvements			
J	Capture of Methane from Anaerobic Digestion at Wastewater Treatment Facilities			
K	Capture of Methane from Anaerobic Digestion of Animal Waste			
L	Recycling of Fly Ash			
M	Demand-Side Management or Other Emission Reduction Programs			
N	Combined Heat and Power			
O	Other Action-specific Methods			
O1	Direct			
O2	Indirect from Purchased Energy			
O3	Other Indirect			
P	<b>Subtotal</b> (Sum rows A1 through O)			

Item	1	2	3	4
	Method/Source	Emission Reductions		
		Gross Reported Reductions	Reported Reductions Distributed to Other Reporters	Net Reported Reductions (Subtract column 3 from column 2)
<b>Carbon Dioxide, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride</b> (metric tons CO <sub>2</sub> e)				
Q	Offsets			
Q1	Offsets Obtained from Other Reporters			
Q2	Offsets Obtained from Non-reporters			
R	<b>Subtotal</b> (Sum rows P through Q2)			
S	Reduction Deficits Carried Over from Last Year's Report (From Schedule III, Section 2, Part B, Item T in Last Year's Report. If negative, enter value. If zero or positive, enter zero.)			
T	<b>TOTAL</b> (Add row R to row S)			
U	Emission Reductions Also Registered as Emission Intensity Reductions			
<b>Chlorofluorocarbons (CFCs)</b> (Kilograms of native gas) <i>Attach additional copies of Part C if reporting reductions in foreign emissions of more than one CFC.</i>				
V	Destruction of CFCs. Specify CFC: _____			
W	Reduction Deficit for this CFC Carried Over from Last Year's Report (From Schedule III, Section 2, Part B, Item X in Last Year's Report. If negative, enter value. If zero or positive, enter zero.)			
X	<b>TOTAL</b> (Add row V to row W)			

## SCHEDULE IV. VERIFICATION AND CERTIFICATION

### SECTION 1. INDEPENDENT VERIFICATION

If your report has been independently verified by a qualified auditor in accord with Section 300.11 of 10 CFR Part 300, Guidelines for Voluntary Greenhouse Gas Reporting, that auditor must complete Schedule IV, Section 1. Otherwise, please skip to Section 2 of Schedule IV, Reporter Self Certification.

1. Enter the Name of Entity Report Independently Verified

Name of Entity: \_\_\_\_\_

2. Describe the Identity of the Independent Verifier

Name of Verifying Company: \_\_\_\_\_

Street: \_\_\_\_\_ P.O. Box: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Contact Title: \_\_\_\_\_

Telephone: (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_ Fax: (\_\_\_\_) \_\_\_\_ - \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

3. Define the Independent Verifier's Qualifications

- a. Corporate Accreditation(s) (check all that apply):

- California Climate Action Registry
- American National Standards Institute and Registrar Accreditation Board (ANSI\_RAB)
- CDM Executive Board
- United Kingdom Accreditation Scheme
- International Standards Organization (ISO)
- Other, please specify: \_\_\_\_\_

- b. Independent Verifier Personnel Accreditation(s):

Name	Title	Relevant Degree	Accreditation	Meets Requirements of §300.11(b) of 10 CFR Part 300
	Lead Verifier			<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Yes <input type="checkbox"/> No

- c. Independent Verification Approach (check all that apply)

The independent verification of data on this form included the following activities:

- Strategic Review and Assessment
  - Assurance that all sources have been included
  - Review of greenhouse gas data management systems
  - Review of greenhouse gas inventory training procedures
  - Review of data collection quality assurance/quality control procedures
  - Confirmation of required records maintenance
- Desk Audit
  - Review for accuracy, completeness, and consistency with DOE guidelines of entity statements
  - Assessment of any significant changes in entity boundaries
  - Review for arithmetic accuracy, internal consistency and plausibility
  - Independent review of activity data for a sample of sources
  - Independent review of activity data for all sources

- Field Audit
  - Independent measurements at a sample of sources
  - Independent measurement for all sources

4. Include the Certification of Independent Verification

We are an independent auditor of \_\_\_\_\_ *[reporting entity]* \_\_\_\_\_'s emissions report. We do not hold any financial interest in the outcome of this audit. We are not owned in whole or in part by \_\_\_\_\_ *[reporting entity]* \_\_\_\_\_ nor do we provide any ongoing operational, support, or consulting services to \_\_\_\_\_ *[reporting entity]* \_\_\_\_\_ except services consistent with independent financial accounting or independent certification of compliance with government or private standards.

This is to certify that \_\_\_\_\_ *[reporting entity]* \_\_\_\_\_ has had its greenhouse gas emissions report covering the period \_\_\_\_\_ to \_\_\_\_\_ verified according to the Voluntary Reporting of Greenhouse Gases Guidelines found in 10 CFR Part 300.11(d). We have found that the report meets the requirements of 10 CFR 300.11(e), including the following:

- The information reported on this form is accurate and complete;
- The information reported on this form has been compiled in accordance with the Voluntary Reporting of Greenhouse Gases Guidelines found in 10 CFR Part 300;
- The information reported on this form is consistent with information submitted in prior years, if any, or any inconsistencies with prior year's information are documented and explained in Schedule I, Entity Statement;
- The reporting entity has taken due diligence to ensure that emissions, emission reductions, or sequestration reported in this EIA-1605(b) report are not double counted in this report, or reported by any other entity;
- For any emissions, emission reductions, or sequestration included in this report that were achieved by a third-party entity, there exists a written agreement with each third party indicating that it has agreed that the reporting entity should be recognized as the entity entitled to report these emissions, emission reductions, or sequestration;
- None of the emissions, emission reductions, or sequestration reported was produced by shifting emissions to other entities or to non-reporting parts of the entity;
- None of any reported changes in avoided emissions associated with the sale of electricity, steam, hot or chilled water generated from non-emitting or low-emitting sources are attributable to the acquisition of a generating facility that has been previously operated, unless the base year generation values are derived from records of the facility's operation prior to its acquisition; and
- The reporting entity will maintain sufficient records to document the analysis and calculations underpinning this verification for a period of no less than three years.

_____ Lead Certifier of Verifying Firm <i>(Print Name)</i>	_____ Lead Certifier of Verifying Firm <i>(Signature)</i>	_____ Date
_____ Corporate Officer of Verifying Firm <i>(Print Name)</i>	_____ Corporate Officer of Verifying Firm <i>(Signature)</i>	_____ Date

**NOTE: Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

**SECTION 2. REPORTER SELF-CERTIFICATION**

1. Enter the Status of Independent Verification

The information reported on this form has been independently verified:  Yes  No

2. Certification

I certify to the best of my knowledge and belief that:

This form meets the following three requirements for reporting reductions.

- The information reported on this form is accurate and complete;
- The information reported on this form has been compiled in accordance with the Voluntary Reporting of Greenhouse Gases Guidelines found in 10 CFR Part 300; and
- The information reported on this form is consistent with information submitted in prior years under the revised guidelines, if any, or any inconsistencies with prior year's information are documented and explained in Schedule I, Entity Statement.

This form meets the above three requirements for reporting reductions and the five additional requirements for registering reductions listed below.

- Reasonable steps have been taken to ensure that direct emissions, direct emission reduction, or sequestration reported in this EIA-1605(b) report are neither double counted nor included in the 1605(b) report of any other entity for the same calendar year;
- Any emissions, emission reductions, or sequestration reported in this Form EIA-1605 achieved by another entity are included in this report under agreement with the other entity;
- None of the emissions, emission reductions, or sequestration reported in this EIA-1605(b) report are a product of shifting emissions to non-reporting parts of the entity;
- None of any reported changes in avoided emissions associated with the sale of electricity, steam, hot or chilled water generated from non-emitting or low-emitting sources are attributable to the acquisition of a generating facility that has been previously operated, unless the base year generation values are derived from records of the facility's operation prior to its acquisition; and
- Our entity will maintain sufficient records to document the analysis and calculations underpinning the data reported on this form for a period of no less than three years.

Certifying Official's Name: \_\_\_\_\_

Title: \_\_\_\_\_

Mailing Address:

Street or P.O. Box \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone: ( \_\_\_\_\_ ) \_\_\_\_\_ - \_\_\_\_\_

E-Mail: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**NOTE: Title 18 U.S.C. 1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction.**

## **Addendum A**

Inventory of Foreign or Subentity Emissions

## Addendum A. Inventory of Foreign or Subentity Emissions

This emissions inventory is for:

- Entity-wide foreign operations
- A domestic or foreign subentity. Enter Name of Subentity: \_\_\_\_\_

Complete part A if an independent third party has verified this report. Otherwise, complete part B.

### Part A. Aggregated Emissions by Gas (for independently verified reports only)

1. Enter Aggregated Emissions by Gas (for independently verified reports only)

1	2	3	4	5	6	7	8	9	10	11
Item	Source	Gas	Units	Base Period Emissions or Carbon Flux				Base Period Average	Reporting Year Emissions or Carbon Flux	Weighted Rating
				Yr 1	Yr 2	Yr 3	Yr 4			
A	Direct Emissions									
A1	Carbon Dioxide	CO <sub>2</sub>								
A2	Methane	CH <sub>4</sub>								
A3	Nitrous Oxide	N <sub>2</sub> O								
A4	Sulfur Hexafluoride	SF <sub>6</sub>								
A5	HFC (Specify)									
A6	PFC (Specify)									
A7	CFC (Specify)									
B	Indirect Emissions from Purchased Energy (Inventory)	CO <sub>2</sub>								
C	Indirect Emissions from Purchased Energy (Inventory)	CH <sub>4</sub>								
D	Indirect Emissions from Purchased Energy (Inventory)	N <sub>2</sub> O								
E	Indirect Emissions from Purchased Energy (Reductions)	CO <sub>2</sub>								
F	Indirect Emissions from Purchased Energy (Reductions)	CH <sub>4</sub>								
G	Indirect Emissions from Purchased Energy (Reductions)	N <sub>2</sub> O								
H	Carbon Flux	CO <sub>2</sub>								

1	2	3	4	5	6	7	8	9	10	11
Item	Source	Gas	Units	Base Period Emissions or Carbon Flux					Reporting Year Emissions or Carbon Flux	Weighted Rating
				Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average		
I	Other Indirect Emissions									
I1	Carbon Dioxide	CO <sub>2</sub>								
I2	Methane	CH <sub>4</sub>								
I3	Nitrous Oxide	N <sub>2</sub> O								
I4	Sulfur Hexafluoride	SF <sub>6</sub>								
I5	HFC (Specify)									
I6	PFC (Specify)									
I7	CFC (Specify)									
J	Captured CO <sub>2</sub> Sequestered in an onsite Geologic Reservoir	CO <sub>2</sub>								
K	Captured CO <sub>2</sub> Transferred to Another Entity for Sequestration in a Geologic Reservoir	CO <sub>2</sub>								

**Part B. Inventory of Domestic Emissions and Carbon Flux** (optional for independently verified reports)

1. Enter Direct Emissions

a. Stationary Combustion *(incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)*

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions					Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average			
Fossil Fuel Combustion	CO <sub>2</sub>									
Fossil Fuel Combustion	CH <sub>4</sub>									
Fossil Fuel Combustion	N <sub>2</sub> O									
Non-Standard Fuel Combustion	CO <sub>2</sub>									
Non-Standard Fuel Combustion	CH <sub>4</sub>									
Non-Standard Fuel Combustion	N <sub>2</sub> O									
Waste Fuels Combustion	CO <sub>2</sub>									
Waste Fuels Combustion	CH <sub>4</sub>									
Waste Fuels Combustion	N <sub>2</sub> O									
Biomass Combustion	CH <sub>4</sub>									
Biomass Combustion	N <sub>2</sub> O									
Nonfuel Use of Fossil Fuels	CO <sub>2</sub>									
<b>Subtotal</b>	CO <sub>2</sub> e									

b. Mobile Sources (incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Highway Vehicles	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Off-Road Vehicles	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Marine Vessels	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Aircraft	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Mobile Refrigeration and Air Conditioning	HFC-134a									
<b>Subtotal</b>	CO <sub>2</sub> e									

c. Sector-Specific Industrial Process Emissions *(incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)*

1	2	3	4	5	6	7	8	9	10	11
Process/Fugitive Emissions	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
<b>Industrial Processes</b>										
Adipic Acid production	N <sub>2</sub> O									
Aluminum Production (CO <sub>2</sub> only)	CO <sub>2</sub>									
Ammonia Production	CO <sub>2</sub>									
Cement Production	CO <sub>2</sub>									
Hydrogen Production	CO <sub>2</sub>									
Iron and Steel Production	CO <sub>2</sub>									
	CH <sub>4</sub>									
Lime Production	CO <sub>2</sub>									
Limestone and Dolomite Use	CO <sub>2</sub>									
Methanol Production	CO <sub>2</sub>									
Nitric Acid Production	N <sub>2</sub> O									
Soda Ash Production and Use	CO <sub>2</sub>									

c. Sector-Specific Industrial Process Emissions (continued)

1	2	3	4	5	6	7	8	9	10	11
Process/Fugitive Emissions	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
<b>Energy</b>										
Coal Mines	CH <sub>4</sub>									
Oil and Natural Gas Industries	CH <sub>4</sub>									
	CO <sub>2</sub>									
	N <sub>2</sub> O									
<b>Waste Handling</b>										
Domestic and Industrial Wastewater Handling	CH <sub>4</sub>									
	N <sub>2</sub> O									
Landfills	CH <sub>4</sub>									
<b>High GWP Gases</b>										
HCFC-22 Production	HFC-23									
Aluminum Production (specify gas)										
Electricity Generation, Transmission, and Distributions	SF <sub>6</sub>									
Magnesium Production	SF <sub>6</sub>									
Semiconductor Manufacture	PFCs/HFCs									
	SF <sub>6</sub>									
<b>Other Industrial Process Sources</b>										
Other	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
	SF <sub>6</sub>									
	PFCs									
	HFCs									
<b>Subtotal</b>	CO <sub>2</sub> e									

d. Agricultural Sources (incorporate all emissions, including CO<sub>2</sub> captured for geologic sequestration)

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Enteric Fermentation	CH <sub>4</sub>									
Livestock Waste	CH <sub>4</sub>									
	N <sub>2</sub> O									
Residue Burning	N <sub>2</sub> O									
	CH <sub>4</sub>									
Rice Cultivation – 1 <sup>st</sup> Harvest	CH <sub>4</sub>									
Rice Cultivation – 2 <sup>nd</sup> ("ratoon") harvest	CH <sub>4</sub>									
Agricultural Soils – Nitrogen Application	N <sub>2</sub> O									
Agricultural Soils – Organic Soils	N <sub>2</sub> O									
Lime Application	CO <sub>2</sub>									
Cultivation of Organic Soils	CO <sub>2</sub>									
Other: _____										
<b>Subtotal</b>	CO <sub>2</sub> e									

e. Fugitive Emissions Associated With Geologic Reservoirs

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Fugitive Emissions From the Extraction of Naturally Occurring CO <sub>2</sub>	CO <sub>2</sub> e									
Fugitive Emissions From the Extraction of CO <sub>2</sub> From Anthropogenic Sources	CO <sub>2</sub> e									
Fugitive Emissions During Transport and Processing	CO <sub>2</sub> e									
Fugitive Emissions During Injection and Extraction for Enhanced Resource Recovery	CO <sub>2</sub> e									
Post-Injection Seepage From Permanent Geologic Storage Reservoir	CO <sub>2</sub> e									

f. Captured CO<sub>2</sub> Emissions from Anthropogenic Sources (*captured CO<sub>2</sub> emissions should also be included as emissions in Questions 1a through 1d above*).

1	2	3	4	5	6	7	8	9
Source	Gas	Unit of Measure	Base Period Average Quantity			Reporting Year Quantity		
			Onsite	Offsite	Total	Onsite	Offsite	Total
1. Stationary Combustion	CO <sub>2</sub> e	metric tons						
2. Sector-Specific Industrial Process Emissions	CO <sub>2</sub> e	metric tons						
3. Other								
<b>Subtotals</b>	CO <sub>2</sub> e	metric tons						

2. Enter Indirect Emissions From Purchased Energy\*

a. Physical Quantities of Energy Purchased

1	2	3	4	5	6	7	8	9
Source	Units	Base Period Consumption					Reporting Year Consumption	System Type/Fuel Used for Generation
		Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average		
Electricity								
Steam								
Hot Water								
Chilled Water								

b. Emissions from Purchased Energy for Emissions Inventory

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions					Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average			
Electricity (for emissions inventory)	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Steam	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Hot Water	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Chilled Water	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
<b>Total</b>	CO <sub>2</sub> e									

c. Emissions from Purchased Energy for Calculating Emissions Reductions in Addendum A (Not included in emissions inventory. Complete only if calculating reductions at the entity-level using Addendum B1 or B2.)

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Electricity (for emissions reductions)	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
Steam, Hot Water, and Chilled Water*	CO <sub>2</sub>									
	CH <sub>4</sub>									
	N <sub>2</sub> O									
<b>Total</b>	CO <sub>2</sub> e									

\*Sum emissions reported for these sources in Question 2b above.

3. Other Indirect Emissions\*

1	2	3	4	5	6	7	8	9	10	11
Source	Gas	Units	Base Period Emissions				Base Period Average	Reporting Year Emissions	Estimation Method	Rating
			Yr 1	Yr 2	Yr 3	Yr 4				
Employee Commuting										
Manufacture & Sale of Energy Efficient Products										
Consumption of Energy-intensive Products										
<b>Other:</b>										
<b>Subtotal</b>	CO <sub>2</sub> e									

\*Do not include in emission inventory.

4. Enter Terrestrial Carbon Fluxes and Stocks

a. Forestry Activities

1	2	3	4	5	6	7	8	9
Categories	Gas	Units	Carbon Stocks			Reporting Year Stock Change or Carbon Flux <sup>1,2</sup>	Estimation Method <sup>3</sup>	Rating
			Base Period Average	Estimated Carbon Stocks in Year Prior to Reporting Year	Reporting Year Carbon Stocks			
Afforestation, Mine Land Reclamation, and Forest Restoration	CO <sub>2</sub>							
Agroforestry	CO <sub>2</sub>							
Forest Management <sup>4</sup>	CO <sub>2</sub>							
Short-rotation Biomass Energy Plantations	CO <sub>2</sub>							
Urban Forestry	CO <sub>2</sub>							
Timber Harvesting <sup>5</sup>	CO <sub>2</sub>							
Other <sup>6</sup>	CO <sub>2</sub>							
<b>Total</b>	CO <sub>2</sub>							

<sup>1</sup>Carbon flux can be positive or negative; positive values indicate a net increase in terrestrial carbon stocks; negative values indicate a net loss of carbon to the atmosphere, i.e., emissions. Carbon flux may be calculated directly using flux based approaches or as the change in carbon stocks between the reporting year and the previous year.

<sup>2</sup>Reporters using methods that estimate carbon flux only should enter a carbon flux value in the column "Reporting Year Stock Change or Carbon Flux" and leave columns blank for Carbon Stock data.

<sup>3</sup>Methods include lookup tables, models, measurement, or a combination of these methods. If using a model, please indicate the name.

<sup>4</sup>Forest management includes management decisions taken at any stage of forest rotation. Forest preservation is a special case and is reported separately in Question 4c below.

<sup>5</sup>Timber harvesting includes CO<sub>2</sub> emissions from the harvest of timber. Activities such as thinning should be included under Forest Management.

<sup>6</sup>"Other" includes activities not covered in the previous categories practiced by landowners that may result in changes in carbon fluxes or stocks.

b. Wood Products:

i Method 1: Track and report emissions in year they occur.

1	2	3	4	5	6	7	8
Category	Gas	Units	Estimated Carbon Stocks in Harvested Wood Products in Year Prior to Reporting Year	Estimated Carbon Stocks in Harvested Wood Products in Reporting Year	Reporting Year Stock Change	Estimation Method	Rating
Wood Products	CO <sub>2</sub>						

ii Method 2: Estimate and report residual carbon after 100 years in reporting year.

1	2	3	4	5	6	7
Category	Gas	Units	Stock of Carbon in Harvested Wood	100 year Residual Carbon Stock	Estimation Method	Rating
Wood products	CO <sub>2</sub>					

c. Land Restoration and Forest Preservation

Entity certifies that it has restored native habitat on land and placed administrative restrictions on the land to ensure that human-caused releases of carbon from the lands do not occur in the future.

1	2	3	4	5	6	7	8
Name/Description of Tract of Land	Type of Restriction (e.g., Easement, Deed Restrictions, etc.)	Year Protected	Area (Acres)	Units	50% of Carbon Stock Accumulated in 50 Years from Inception of Preservation Activity	Estimation Method	Rating
1.							
2.							
3.							
4.							
<b>Total</b>							

d. Forest Land That Experiences Carbon Losses From Natural Disturbances

This table documents carbon stock changes on each tract of disturbed lands and should be used until carbon stocks reach pre-disturbance levels.

1	2	3	4	5	6	7	8	9	10	11
Name/Description Tract of Land	Area (Acres)	Type of Disturbance	Year	Units	Carbon Stocks			Loss	Estimation Method	Rating
					Base Period Average	Carbon Stocks in Year Before Disturbance	Reporting Year Carbon Stocks			
1.										
2.										
3.										
4.										
<b>Total</b>										

e. Sustainably Managed Forests

1	2	3	4
Name/Description of Tract of Land	Area (Acres)	Has Sustainability Been Verified by Third Party Certifier (Y/N)	Identify System Used to Determine Sustainability
1.			
2.			
3.			
4.			
<b>Total</b>			

f. Incidental Lands Excluded From Terrestrial Carbon Fluxes and Stocks in Question 4a

1	2	3
Name/Description of Tract of Land	Type of Land	Area (Acres)
1.		
2.		
3.		
4.		
<b>Total</b>		

## g. Other Terrestrial Carbon Fluxes

1	2	3	4	5	6	7	8	9
Categories	Gas	Units	Carbon Stocks			Reporting Year Stock Change or Carbon Flux <sup>1,2</sup>	Estimation Method <sup>3</sup>	Rating
			Base Period Average	Estimated Carbon Stocks in Year Prior to Reporting Year	Estimated Carbon Stock in Reporting Year			
Crops on Mineral Soils	CO <sub>2</sub>							
Pasture/Grazing	CO <sub>2</sub>							
Land Use Change	CO <sub>2</sub>							
Other:	CO <sub>2</sub>							
<b>Total</b>	CO <sub>2</sub>							

<sup>1</sup> Carbon flux can be positive or negative; positive values indicate a net increase in terrestrial carbon stocks; negative values indicate a net loss of carbon to the atmosphere, i.e., emissions. Carbon flux may be calculated directly using flux based approaches or as the change in carbon stocks between the reporting year and the previous year.

<sup>2</sup> Reporters using methods that estimate carbon flux only should enter a carbon flux value in the column "Reporting Year Stock Change or Carbon Flux" and leave columns blank for Carbon Stock data.

<sup>3</sup> Methods include lookup tables, models, measurement, or a combination of these methods. If using a model, please indicate the name.

## h. Terrestrial Carbon Flux Summary

1	2	3	4	5
Categories	Gas	Units	Reporting Year Stock Change or Carbon Flux	Rating
Forestry Activities	CO <sub>2</sub>			
Wood Products Method 1	CO <sub>2</sub>			
Wood Products Method 2	CO <sub>2</sub>			
Land Restoration and Forest Preservation	CO <sub>2</sub>			
Sustainably Managed Forests	CO <sub>2</sub>			
Incidental Lands	CO <sub>2</sub>			
Other Terrestrial Carbon Fluxes	CO <sub>2</sub>			
<b>Total Reporting Year Terrestrial Carbon Flux</b>	CO <sub>2</sub>			

5. Identify and Estimate De Minimis Emissions Sources

1	2	3	4	5	6	7
Emissions Type	Emissions Source	Gas	Unit of Measure	Base Period Average Emissions	Reporting Year Emissions	Year Last Estimated
<b>TOTAL</b>		CO <sub>2</sub> e	metric tons			

**Part C. Total Foreign or Subentity Emissions and Carbon Flux**

1. Enter Total Emissions and Carbon Flux

Item	1 Source	2 Gas/ Units	3	4	5	6	7	8 Reporting Year Emissions or Carbon Flux
			Base Period Emissions					
			Yr 1	Yr 2	Yr 3	Yr 4	Base Period Average	
A	Direct Emissions	mtCO <sub>2</sub> e						
B	Indirect Emissions from Purchased Energy for Emissions Inventory	mtCO <sub>2</sub> e						
C	Indirect Emissions from Purchased Energy for Calculation of Emission Reductions	mtCO <sub>2</sub> e						
D	<b>Total Emissions (A + B)*</b>	mtCO <sub>2</sub> e						
E	Carbon Flux	mtCO <sub>2</sub> e						
F	Captured CO <sub>2</sub> Sequestered in an Onsite Geologic Reservoir**	mtCO <sub>2</sub> e						
G	<b>Total Inventory Emissions (D – E – F)</b>	mtCO <sub>2</sub> e						
H	Other Indirect Emissions**	mtCO <sub>2</sub> e						
I	Captured CO <sub>2</sub> Transferred to Another Entity for Sequestration in a Geologic Reservoir	mtCO <sub>2</sub> e						

mtCO<sub>2</sub>e = metric tons carbon dioxide equivalent

\*Do not include Indirect Emissions from Purchased Energy for Calculation of Emission Reductions (Item C) in Total Emissions.

\*\*Do not include CO<sub>2</sub> extracted and captured from natural sources or CO<sub>2</sub> recycled during enhanced resource recovery operations.

## **Addendum B**

### Emission Reduction Methods

## Addendum B1. Changes in Emissions Intensity

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

### Part A. Output

1. Enter Physical, Economic, or Indexed Output Measures for the Base Period and Reporting Year

Item	1	2	3	4	5	6	7	8
	Output Measure	Unit of Measure	Base Period					Reporting Year
			Yr 1	Yr 2	Yr 3	Yr 4	Avg.	
<b>Physical Measure</b>								
A								
<b>Economic Measure</b>								
B		Current \$						
C		Constant Year (\$2000)						
<b>Indexed Measure</b>								
D		[Physical or Economic]						

2. If Providing an Output Measure Not Described in the Technical Guidelines (see Table 2.2), Indicate Reason Why Alternative Measure Was Selected (check all that apply):

- Industry/trade group standard       Reported to state/federal government agencies  
 Used in annual reports                       Other

3. Define and Describe the Output Measure Used and Provide a Rationale for Why the Measure Was Selected:

**Part B. Emissions, Emissions Intensity, and Emission Reductions**

1. Enter Base Period and Reporting Year Emissions (metric tons CO<sub>2</sub>e)

	1	2	3	4
Item	Description	Direct Emissions*	Indirect Emissions from Purchased Energy*	Other Indirect Emissions
E	Base Period Emissions			
F	Reporting Year Emissions			

\*Include CO<sub>2</sub> captured and sequestered in geologic reservoirs.

\*\*Calculate indirect emissions from purchased electricity using electricity end use factors for emission reductions from Appendix F.

2. Calculate and Enter Base Period and Reporting Year Intensity (metric tons CO<sub>2</sub>e per unit of output)

	1	2	3	4
Item	Description	Direct Emissions	Indirect Emissions from Purchased Energy	Other Indirect Emissions
G	Base Period Intensity (E / (A7, C7, or D7))			
H	Reporting Year Intensity (F / (A8, C8, or D8))			

3. Calculate and Enter Emission Reductions (metric tons CO<sub>2</sub>e)

	1	2	3	4
Item	Description	Source of Reductions		
		Direct Emissions	Indirect Emissions from Purchased Energy	Other Indirect Emissions*
I	Emission Reductions ((G – H) * A8, C8, or D8)			

\*Reductions of Other Indirect Emissions may not be registered.

4. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

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5. Describe Actions That Were the Likely Causes of the Reductions Achieved:

6. Identify Cause(s) of the Emission Reduction(s) (*check all that apply*):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

7. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4	5
Name of Recipient	Emissions Type*	Gas	Units	Amount
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
<b>Total Direct Emission Reductions</b>		CO <sub>2</sub> e	metric tons	
<b>Total Indirect Emission Reductions from Purchased Energy</b>		CO <sub>2</sub> e	metric tons	
<b>Total Other Indirect Emission Reductions</b>		CO <sub>2</sub> e	metric tons	

\*Direct, Indirect from Purchased Energy, Other Indirect.

## Addendum B2. Changes in Absolute Emissions

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

Requirement for Using Method to Register Reductions: Reporting Year output must be equal to or greater than the Base Period output.

### Part A. Output

1. Enter Physical, Economic, or Indexed Output Measures for Base Period and Reporting Year

Item	1	2	3	4	5	6	7	8
	Output Measure	Unit of Measure	Base Period					Reporting Year
			Yr 1	Yr 2	Yr 3	Yr 4	Avg.	
<b>Physical Measure</b>								
A								
<b>Economic Measure</b>								
B		Current \$						
C		Constant Year (\$2000)						
<b>Indexed Measure</b>								
D		[Physical or Economic]						

2. Is the Reporting Year Output Equal To or Greater Than the Base Period Average Output?
  - Yes
  - No (If No, you may only report reductions on this addendum. Go to Question 4.)
3. Do You Intend to Register Absolute Emission Reductions for the Entity or Subentity?
  - Yes (Skip Question 4 and go to question 5)
  - No (Go to Question 4)
4. In Addition to Reporting Reductions on Addendum B2, Do You Also Intend To Register Reductions on Addendum B1 for this Entity or Subentity (Changes in Emissions Intensity)?
  - Yes
  - No
5. If Providing an Output Measure Not Described in the Technical Guidelines (see Table 2.2), Indicate the Reason Why Alternative Measure Was Selected (check all that apply):
  - Industry/trade group standard       Reported to state/federal government agencies
  - Used in annual reports                       Other
6. Define and Describe the Output Measure Used and Provide a Rationale for Why the Measure Was Selected:

**Part B. Emissions and Emission Reductions**

1. Enter Emissions and Calculate Emission Reductions (metric tons CO<sub>2</sub>e)

Item	Description	Source of Emissions		
		2	3	4
		Direct Emissions*	Indirect Emissions from Purchased Energy**	Other Indirect Emissions
E	Base Period			
F	Reporting Year			
G	Registered Emission Reductions (E – F)			
H	Reported Emission Reductions (E – F)			

\*Include CO<sub>2</sub> captured and sequestered in geologic reservoirs (onsite and offsite).

\*\*Calculate indirect emissions from purchased electricity using electricity end use factors for emission reductions from Appendix F.

2. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

--	--	--	--	--	--	--	--	--	--

3. Describe Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (Optional):

--

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1 Name of Recipient	2 Emissions Type*	3 Gas	4 Units	5 Amount
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
<b>Total Direct Emission Reductions</b>		CO <sub>2</sub> e	metric tons	
<b>Total Indirect Emission Reductions from Purchased Energy</b>		CO <sub>2</sub> e	metric tons	
<b>Total Other Indirect Emission Reductions</b>		CO <sub>2</sub> e	metric tons	

\*Direct, Indirect from Purchased Energy, Other Indirect.

### Addendum B3. Changes in Carbon Storage

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

#### Part A. Terrestrial Carbon Flux

1. Enter Reporting Year Inventory of Terrestrial Carbon Flux

	1	2	3
Item	Categories	Units of Measure	Reporting Year Stock Change or Carbon Flux*
A	Forestry Activities	metric tons CO <sub>2</sub> e	
B	Wood Products – Method 1	metric tons CO <sub>2</sub> e	
C	Wood Products – Method 2	metric tons CO <sub>2</sub> e	
D	Land Restoration and Forest Preservation	metric tons CO <sub>2</sub> e	
E	Sustainably Managed Forests	metric tons CO <sub>2</sub> e	
F	Incidental Lands	metric tons CO <sub>2</sub> e	
G	Other Terrestrial Carbon Fluxes	metric tons CO <sub>2</sub> e	
<b>H</b>	<b>Total Reporting Year Terrestrial Carbon Flux</b>	metric tons CO <sub>2</sub> e	

\*From Schedule I, Section 2, Part B, Question 4, if reporting for entity only. From Addendum A, Part B, Question 4, if reporting for a subentity.

2. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

--	--	--	--	--	--	--	--	--	--

3. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part B. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	

## Addendum B4. Changes in Avoided Emissions

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

Complete one copy of Addendum B4 for each energy product sold.

### Part A. Generated Energy Source and Characteristics

1. Did the Entity or Subentity Emit Greenhouse Gases in the Base Period (including any capacity acquired since the Base Period)?
  - Yes (If Yes, you must estimate reductions using Addendum B5, Emission Reductions from Energy Generation and Distribution)
  - No
  
2. Has the Entity or Subentity Acquired or Divested Generation Capacity Since the Base Period?
  - Yes (Go to Question 3)
  - No (Go to Question 4)
  
3. Was the Acquired or Divested Capacity Operational During the Base Period for the Entity or Subentity?
  - Yes (If Yes, you must adjust Base Period generation to reflect any capacity that was acquired or divested)
  - No
  
4. Identify Energy Product Type Sold (*check one*)
  - Electricity
  - Steam
  - Hot water
  - Chilled water

### Part B. Energy Generation, Emissions, and Emission Reductions

1. Enter Activity Data, Emission Coefficients, Conversion Factors, and Emission Reductions

Item	1	2	3
	Description	Units of Measure	Quantity
A	Base Period Energy Sold		
B	Reporting Year Total Emissions		
C	Reporting Year Energy Generated		
D	Reporting Year Emissions Intensity (B/C)		
E	Reporting Year Energy Sold		
F	Reporting Year Incremental Energy Sold (E-A)		
G	Avoided Emissions Intensity Benchmark		
H	Emission Reduction ((G - D) * F)	metric tons CO <sub>2</sub> e	

2. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [*Enter codes from Appendix M*]

--	--	--	--	--	--	--	--	--	--

3. Describe Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (*check all that apply*):

- Voluntary
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	

## Addendum B5. Emission Reductions from Energy Generation and Distribution

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

Complete one copy of Addendum B5 for each energy product sold.

### Part A. Energy Generation and Emissions

1. Energy Product Type Exported (*check one*)
- Electricity
  - Steam
  - Hot water
  - Chilled water

2. Emissions, Energy Generation, and Emissions Intensity

Item	1	2	3
	Description	Units of Measure	Quantity
A	Base Period Emissions	metric tons CO <sub>2</sub> e	
B	Base Period Exported Energy	MWh or MMBtu	
C	Base Period Emissions Intensity (A/B)		
D	Reporting Year Emissions	Metric tons CO <sub>2</sub> e	
E	Reporting Year Exported Energy	MWh or MMBtu	
F	Reporting Year Emissions Intensity (D/E)		
G	Reporting Year Incremental Exported Energy (E - B)	MWh or MMBtu	
H	Avoided Emissions Benchmark		

### Part B. Emission Reductions

1. Calculate and Enter Emission Reductions

Item	1	2	3
	Description	Units of Measure	Quantity
I	Emission Reductions from Improvements in Historical Emissions Intensity [(C - F) * B]	metric tons CO <sub>2</sub> e	
J	Emission Reductions from Incremental Exported Energy [(H - F) * G]	metric tons CO <sub>2</sub> e	
K	Total Emission Reductions from Energy Generation and Exports (I + J)	metric tons CO <sub>2</sub> e	

2. Identify Types of Actions That Were the Likely Cause(s) of the Reductions Achieved [*Enter codes from Appendix M*]

3. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (*check all that apply*):

- Voluntary
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	



2. Enter Volume of Gas Captured by Source and Disposition (Mscf)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
<b>DEGASIFICATION DURING MINING</b>						
<b>Ventilation Systems</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
Total Ventilation Systems						
<b>Other Degasification Methods</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
Total Other Degasification						
<b>PRE-MINING DEGASIFICATION</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
Total Pre-Mining Degasification						
<b>Total All Methods</b>						

3. Enter Average Heat Content of Gas Captured (Btu/scf)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
<b>DEGASIFICATION DURING MINING</b>						
<b>Ventilation Systems</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
<b>Other Degasification Methods</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
<b>PRE-MINING DEGASIFICATION</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						

4. Enter Total Energy Content of Gas Captured and Combusted (MMBtu)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
<b>DEGASIFICATION DURING MINING</b>						
<b>Ventilation Systems</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
<b>Other Degasification Methods</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
<b>PRE-MINING DEGASIFICATION</b>						
Flared						
Electricity used onsite						
Electricity sold to grid						
Injected into pipeline						
Direct use onsite						
<b>Total</b>						

5. Enter Mass of Methane Captured (metric tons CO<sub>2</sub>e)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Total Methane Captured						

**Part C. Emission Reductions**

1. Calculate Changes in Methane Capture

Item	1	2	3
	Description	Units of Measure	Quantity
A	Average Annual Quantity of Methane Captured in Base Period	metric tons CO <sub>2</sub> e	
B	Methane Captured in Reporting Year	metric tons CO <sub>2</sub> e	
C	Change in Methane Captured (B – A)	metric tons CO <sub>2</sub> e	

2. Calculate Changes in Disposition of Electricity Generation from Captured Methane (MWh)

Item	Disposition	Base Period					Reporting Year
		Year 1	Year 2	Year 3	Year 4	Base Period Average	
D	Electricity Used Onsite						
E	Electricity Sales						
F	Total Generation						

3. Calculate Carbon Dioxide Displaced from Electricity Used Onsite (avoided emissions)

Item	1	2	3
	Description	Units of Measure	Quantity
G	Base Period Average Electricity Used Onsite	MWh	
H	Reporting Year Electricity Used Onsite	MWh	
I	Reporting Year Incremental Electricity Used Onsite (H – G)	MWh	
J	Reporting Year Total Emissions from Electricity Used Onsite*	metric tons CO <sub>2</sub> e	
K	Reporting Year Emissions Intensity of Electricity Used Onsite (J/H)	metric tons CO <sub>2</sub> e /MWh	
L	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
M	Emission Reductions ((L - K) * I)	metric tons CO <sub>2</sub> e	

\*Include emissions from supplemental fossil fuel use only.

4. Calculate Carbon Dioxide Displaced from Electricity Sales (avoided emissions)

Item	1	2	3
	Description	Units of Measure	Quantity
N	Base Period Average Electricity Sold	MWh	
O	Reporting Year Electricity Sold	MWh	
P	Reporting Year Incremental Electricity Sold (O – N)	MWh	
Q	Reporting Year Total Emissions from Electricity Sold	metric tons CO <sub>2</sub> e	
R	Reporting Year Emissions Intensity of Electricity Sold (Q/O)	metric tons CO <sub>2</sub> e /MWh	
S	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
T	Emission Reductions ((S- R) * P)	metric tons CO <sub>2</sub> e	

5. Calculate Carbon Dioxide Emissions from Flaring

Item	1	2	3
	Description	Units of Measure	Quantity
U	Base Period Average Methane Flared	MMBTU	
V	Reporting Year Methane Flared	MMBTU	
W	Incremental Methane Flared (V-U)	MMBTU	
X	Change in Carbon Dioxide Emissions from Flaring	metric tons CO <sub>2</sub> e	

6. Summarize Emission Reductions

Item	Description	Units of Measure	Emission Reductions		
			3	4	5
			Direct	Avoided	TOTAL
Y	Change in Methane Captured and Combusted	metric tons CO <sub>2</sub> e			
Z	Carbon Dioxide Displaced from Electricity Used Onsite	metric tons CO <sub>2</sub> e			
AA	Carbon Dioxide Displaced from Electricity Sales	metric tons CO <sub>2</sub> e			
BB	Carbon Dioxide Emissions from Flaring	metric tons CO <sub>2</sub> e			
CC	Net Change in Carbon Dioxide (Y + Z + AA –BB)	metric tons CO <sub>2</sub> e			

7. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

--	--	--	--	--	--	--	--	--	--

8. Describe Actions That Were the Likely Causes of the Reductions Achieved:

9. Identify Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

10. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part D. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1 Name of Recipient	2 Gas	3 Units	4 Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	



2. Enter Volume of Landfill Gas Captured by Disposition (Mscf)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Flared						
Electricity used onsite						
Electricity sold offsite						
Injected into pipeline						
Direct use onsite						
Direct use offsite						
<b>Total</b>						

3. Enter Average Heat Content of Gas Captured (Btu/scf)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Flared						
Electricity used onsite						
Electricity sold offsite						
Injected into pipeline						
Direct use onsite						
Direct use offsite						

4. Enter Total Energy Content of Gas Captured and Combusted (MMBtu)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Flared						
Electricity used onsite						
Electricity sold offsite						
Injected into pipeline						
Direct use onsite						
Direct use offsite						
<b>Total</b>						

5. Enter Mass of Methane Captured (metric tons CO<sub>2</sub>e)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Flared						
Electricity used onsite						
Electricity sold offsite						
Injected into pipeline						
Direct use onsite						
Direct use offsite						
<b>Total</b>						

**Part C. Emission Reductions**

1. Calculate Changes in Methane Capture

Item	1	2	3
	Description	Units of Measure	Quantity
A	Average Annual Quantity of Methane Captured in Base Period	metric tons CO <sub>2</sub> e	
B	Methane Captured in Reporting Year	metric tons CO <sub>2</sub> e	
C	Change in Methane Captured (B – A)	metric tons CO <sub>2</sub> e	

2. Calculate Changes in Disposition of Electricity Generation from Captured Methane (MWh)

Item	Source and Disposition	2	3	4	5	6	Reporting Year
		Base Period					
		Year 1	Year 2	Year 3	Year 4	Base Period Average	
D	Electricity Used Onsite						
E	Electricity Sales						
F	Total Generation						

3. Calculate Carbon Dioxide Displaced from Electricity Used Onsite (avoided emissions)

Item	1	2	3
	Description	Units of Measure	Quantity
G	Base Period Average Electricity Used Onsite	MWh	
H	Reporting Year Electricity Used Onsite	MWh	
I	Reporting Year Incremental Electricity Used Onsite (H – G)	MWh	
J	Reporting Year Total Emissions from Electricity Used Onsite *	metric tons CO <sub>2</sub> e	
K	Reporting Year Emissions Intensity of Electricity Used Onsite (J/H)	metric tons CO <sub>2</sub> e /MWh	
L	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
M	Emission Reductions ((L - K) * I)	metric tons CO <sub>2</sub> e	

\*Include emissions from supplemental fossil fuel use only.

4. Calculate Carbon Dioxide Displaced from Electricity Sales (avoided emissions)

Item	1	2	3
	Description	Units of Measure	Quantity
N	Base Period Average Electricity Sold	MWh	
O	Reporting Year Electricity Sold	MWh	
P	Reporting Year Incremental Electricity Sold (O – N)	MWh	
Q	Reporting Year Total Emissions from Electricity Sold*	metric tons CO <sub>2</sub> e	
R	Reporting Year Emissions Intensity of Electricity Sold (Q/O)	metric tons CO <sub>2</sub> e /MWh	
S	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
T	Emission Reductions ((S - R) * P)	metric tons CO <sub>2</sub> e	

\*Include emissions from supplemental fossil fuel use only

5. Summarize Emission Reductions

Item	Description	Units of Measure	Emission Reductions		
			3	4	5
			Direct	Avoided	TOTAL
U	Change in Methane Captured and Combusted	metric tons CO <sub>2</sub> e			
V	Carbon Dioxide Displaced from Electricity Used Onsite	metric tons CO <sub>2</sub> e			
W	Carbon Dioxide Displaced from Electricity Sales	metric tons CO <sub>2</sub> e			
X	Net Change in Carbon Dioxide (U + V + W)	metric tons CO <sub>2</sub> e			

6. Identify Types of Actions that Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

--	--	--	--	--	--	--	--	--	--

7. Describe the Actions that Were the Likely Causes of the Reductions Achieved:

8. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

9. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part D. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	



**Part B. Action Quantification**

1. Enter Source of Carbon Dioxide Sequestered in Current Reporting Year (metric tons CO<sub>2</sub>e)

Item	1	2	3	4	5	6
	Name of Source	Location of Source	CO <sub>2</sub> Extracted/ Captured	CO <sub>2</sub> Acquired Via Transfer or Purchase	Total CO <sub>2</sub> Captured or Acquired	Name of Storage Site
A						
B						
C						
D						
E						
F	Totals (sum of items A-E)					

2. Enter Amount Sequestered in Current Reporting Year (metric tons CO<sub>2</sub>e)

Item	1	2	3	4	5		6	7
	Name of Storage Site	Location of Storage Site	Enhanced Resource Recovery?	CO <sub>2</sub> Injected in Current Reporting Year	Post-Injection Leakage/Seepage During Current Reporting Year		Quantity	Total CO <sub>2</sub> Sequestered in Current Reporting Year
CO <sub>2</sub> Sequestered by Reporting Entity								
CO <sub>2</sub> Sequestered by Third Party								
G			Yes/No					
H			Yes/No					
I			Yes/No					
J			Yes/No					
K			Yes/No					
L			Yes/No					
M	Totals (sum of items G-L)							

3. Enter Amount Sequestered in Base Year (metric tons CO<sub>2</sub>e)

Item	1	2	3	4	5		6	7
	Name of Storage Site	Location of Storage Site	Enhanced Resource Recovery?	Amount Injected in Base Year	Post-Injection Leakage/Seepage During Base Year		Quantity	Total CO <sub>2</sub> Sequestered in Base Year
CO <sub>2</sub> Sequestered by Reporting Entity								
CO <sub>2</sub> Sequestered by Third Party								
N			Yes/No					
O			Yes/No					
P			Yes/No					
Q			Yes/No					
R			Yes/No					
S			Yes/No					
T	Totals (sum of items N-S)							

**Part C. Emission Reductions**

1. Calculate Emission Reductions

Item	1	2	3
	Description	Unit of Measure	Quantity
U	Emission Reductions (M7-T7)	metric tons CO <sub>2</sub> e	

2. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

<input type="text"/>									
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3. Describe Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) *(check all that apply)*:

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part D. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	

## Addendum B9. Electricity Transmission and Distribution Improvements

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

### Part A. Action Identification

1. Date Action Was Initiated: Month \_\_\_\_\_ Year \_\_\_\_\_
2. Did You Report Transmission and Distribution Improvements Last Year?  
 Yes       No
3. Are You Reporting as a Control Area or as a Member of a Control Area?  
 Yes       No

### Part B. Activity Data

1. Enter Activity Data

Item	1	2	3
	Description	Units of Measure (kWh or kVAh)	Quantity
<b>Base Period</b>			
A	Electricity Entering T&D System From Own Generation		
B	Electricity Delivered Through T&D System to End Users (NOTE: Should Equal Total Wholesale and Retail Sales)		
C	Electricity Imported into T&D System		
D	Electricity Exported from T&D System		
E	Net Imports of Electricity (C-D)		
F	Actual Net Interchange (ANI) If Reporting on Control Area Basis		
G	Loss Ratio $(A + E - B)/(A + E)$ or $(A - (B + F))/(A - F)$ †		
<b>Reporting Year</b>			
H	Electricity Entering T&D System from Own Generation		
I	Electricity Delivered Through T&D System to End Users (NOTE: Should Equal Total Wholesale and Retail Sales)		
J	Electricity Imported into T&D System		
K	Electricity Exported from T&D System		
L	Net Imports of Electricity (J-K)		
M	Actual Net Interchange (ANI) If Reporting on Control Area Basis		
N	Loss Ratio $(H + L - I)/(H + L)$ or $(H - (I + M))/(H - M)$ †		
O	Change In Loss Intensity $(G - N) * (H + L)$ or $(G - N) * (H - M)$ †	kWh or kVAh	

†Use second equation if reporting on a control area basis

**Part C. Emission Reductions**

1. Calculate Emission Reductions

	1	2	3
Item	Description	Units of Measure	Quantity
P	U.S. Avoided Emissions Benchmark for Electricity	metric tons CO <sub>2</sub> e/MWh	
Q	System Power Factor (If Loss Intensity Calculated In kVAh)		
R	Total Emission Reductions $[(O * P) / 1000]$ or $[(O * (P * Q))/1000]$ †	metric tons CO <sub>2</sub> e	
S	Direct Emission Reductions $[R * (I/(I + L))]$	metric tons CO <sub>2</sub> e	
T	Avoided Emissions (from Avoided Electricity Imports) $[R * (L/(I + L))]$	metric tons CO <sub>2</sub> e	

†Use second equation if calculating losses in kVAh

2. Identify Types of Actions that Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

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3. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part D. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
<b>Name of Recipient</b>	<b>Gas</b>	<b>Units</b>	<b>Amount</b>
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	



**Part B. Action Quantification**

1. Enter Volume of Gas Captured and Disposition (Mscf)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Flared						
Electricity generation						
Injected into pipeline/sale to supply network						
Direct use onsite						
Direct use offsite						
Total						

2. Enter Average Heat Content of Gas Captured and Utilized (Btu/scf)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Flared						
Electricity generation						
Injected into pipeline/sale to supply network						
Direct use onsite						
Direct use offsite						

3. Enter Total Energy Content of Gas Captured and Utilized (MMBtu)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Flared						
Electricity generation						
Injected into pipeline/sale to supply network						
Direct use onsite						
Direct use offsite						
Total						

4. Enter Mass of Methane Captured and Utilized (metric tons CO<sub>2</sub>e)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Total Methane Captured						

5. Enter Nitrous Oxide Emissions From Aerobic Conditions During the Base Period and Reporting Year (metric tons CO<sub>2</sub>e)

1	2	3	4	5	6	7
Unit of Measure	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	

**Part C. Emission Reductions**

1. Calculate Changes in Methane Captured and Utilized

Item	1 Description	2 Units of Measure	3 Quantity
A	Base Period Average Annual Quantity of Methane Captured	metric tons CO <sub>2</sub> e	
B	Reporting Year Methane Captured	metric tons CO <sub>2</sub> e	
C	Change in Methane Captured (B – A)	metric tons CO <sub>2</sub> e	

2. Calculate Changes in Disposition of Electricity Generation from Captured Methane (MWh)

Item	1 Source and Disposition	Base Period					7 Reporting Year
		2 Year 1	3 Year 2	4 Year 3	5 Year 4	6 Base Period Average	
D	Electricity Used Onsite						
E	Electricity Sold						
F	Total Generation						

3. Calculate Carbon Dioxide Displaced from Electricity Used Onsite (avoided emissions)

Item	1 Description	2 Units of Measure	3 Quantity
G	Base Period Average Electricity Used Onsite	MWh	
H	Reporting Year Electricity Used Onsite	MWh	
I	Reporting Year Incremental Electricity Used Onsite (H – G)	MWh	
J	Reporting Year Total Emissions from Electricity Used Onsite *	metric tons CO <sub>2</sub> e	
K	Reporting Year Emissions Intensity of Electricity Used Onsite (J/H)	metric tons CO <sub>2</sub> e /MWh	
L	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
M	Emission Reductions ((L – K) * I)	metric tons CO <sub>2</sub> e	

\*Include emissions from supplemental fossil fuel use only. If biogas was co-combusted with fossil fuels in Base Period, use Addendum B5 (Emission Reductions from Energy Generation and Distribution) to report/register reduction associated with exported electricity.

4. Calculate Carbon Dioxide Displaced from Electricity Sales (avoided emissions)

Item	1	2	3
	Description	Units of Measure	Quantity
N	Base Period Average Electricity Sold	MWh	
O	Reporting Year Electricity Sold	MWh	
P	Reporting Year Incremental Electricity Sold (O – N)	MWh	
Q	Reporting Year Total Emissions from Electricity Sold*	metric tons CO <sub>2</sub> e	
R	Reporting Year Emissions Intensity of Electricity Sold (Q/O)	metric tons CO <sub>2</sub> e /MWh	
S	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
T	Emission Reductions ((S – R) * P)	metric tons CO <sub>2</sub> e	

\*Include emissions from supplemental fossil fuel use only. If biogas was co-combusted with fossil fuels in Base Period, use Addendum B5 (Emission Reductions from Energy Generation and Distribution) to report/register reduction associated with exported electricity.

5. Calculate Changes in Nitrous Oxide Emissions from Use of Anaerobic Digester

Item	1	2	3
	Description	Units of Measure	Quantity
U	Base Period Average Annual Nitrous Oxide Emissions	metric tons CO <sub>2</sub> e	
V	Reporting Year Quantity of Nitrous Oxide Emissions	metric tons CO <sub>2</sub> e	
W	Change in Nitrous Oxide Emissions (V – U)	metric tons CO <sub>2</sub> e	

6. Summarize Emission Reductions

Item	Description	Units of Measure	Emission Reductions		
			3	4	5
			Direct	Avoided	TOTAL
X	Increase in Methane Captured and Utilized	metric tons CO <sub>2</sub> e			
Y	Carbon Dioxide Displaced from Electricity Used Onsite	metric tons CO <sub>2</sub> e			
Z	Carbon Dioxide Displaced from Electricity Sales	metric tons CO <sub>2</sub> e			
AA	Change in Nitrous Oxide Emissions	metric tons CO <sub>2</sub> e			
BB	Net Change in Emissions (X + Y + Z – AA)	metric tons CO <sub>2</sub> e			

7. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

<input type="text"/>									
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8. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

9. Identify the Cause(s) of the Emission Reduction(s) (*check all that apply*):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

10. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part D. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	



**Part B. Action Quantification**

1. Enter Action Characteristics

1	2	3
<b>Name of Facility</b>	<b>Species of Animals Producing Waste Handled by the Digester</b>	<b>No. of Animals of the Species</b>

2. Enter Volume of Gas Captured and Disposition (Mscf)

1	2	3	4	5	6	7
<b>Source and Disposition</b>	<b>Base Period</b>					<b>Reporting Year</b>
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Base Period Average</b>	
Flared						
Electricity generation						
Injected into pipeline/sale to supply network						
Direct use onsite						
Direct use offsite						
Total						

3. Enter Average Heat Content of Gas Captured and Utilized (Btu/scf)

1	2	3	4	5	6	7
<b>Source and Disposition</b>	<b>Base Period</b>					<b>Reporting Year</b>
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Base Period Average</b>	
Flared						
Electricity generation						
Injected into pipeline/sale to supply network						
Direct use onsite						
Direct use offsite						

4. Enter Total Energy Content of Gas Captured and Utilized (MMBtu)

1	2	3	4	5	6	7
<b>Source and Disposition</b>	<b>Base Period</b>					<b>Reporting Year</b>
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Base Period Average</b>	
Flared						
Electricity generation						
Injected into pipeline/sale to supply network						
Direct use onsite						
Direct use offsite						
Total						

5. Enter Mass of Methane Captured and Utilized (metric tons CO<sub>2</sub>e)

1	2	3	4	5	6	7
Source and Disposition	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	
Total Methane Captured						

6. Enter Nitrous Oxide Emissions From Aerobic Conditions During the Base Period and Reporting Year (metric tons CO<sub>2</sub>e)

1	2	3	4	5	6	7
Unit of Measure	Base Period					Reporting Year
	Year 1	Year 2	Year 3	Year 4	Base Period Average	

**Part C. Emission Reductions**

1. Calculate Changes in Methane Capture

Item	1 Description	2 Units of Measure	3 Quantity
A	Average Annual Quantity of Methane Captured in Base Period	metric tons CO <sub>2</sub> e	
B	Methane Captured in Reporting Year	metric tons CO <sub>2</sub> e	
C	Change in Methane Captured (B – A)	metric tons CO <sub>2</sub> e	

2. Calculate Changes in Disposition of Electricity Generation from Captured Methane (MWh)

Item	1	2	3	4	5	6	7
	Source and Disposition	Base Period				Base Period Average	Reporting Year
	Year 1	Year 2	Year 3	Year 4			
D	Electricity Used Onsite						
E	Electricity Sales						
F	Total Generation						

3. Calculate Carbon Dioxide Displaced From Electricity Used Onsite (avoided emissions)

Item	1 Description	2 Units of Measure	3 Quantity
G	Base Period Average Electricity Used Onsite	MWh	
H	Reporting Year Electricity Used Onsite	MWh	
I	Reporting Year Incremental Electricity Used Onsite (H – G)	MWh	
J	Reporting Year Total Emissions from Electricity Used Onsite *	metric tons CO <sub>2</sub> e	
K	Reporting Year Emissions Intensity of Electricity Used Onsite (J/H)	metric tons CO <sub>2</sub> e /MWh	
L	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
M	Emission Reductions ((L – K) * I)	metric tons CO <sub>2</sub> e	

\*Include emissions from supplemental fossil fuel use only. If biogas was co-combusted with fossil fuels in Base Period, use Addendum B5 (Emission Reductions from Energy Generation and Distribution) to report/register reduction associated with exported electricity.

4. Calculate Carbon Dioxide Displaced From Electricity Sales (avoided emissions)

Item	1	2	3
	Description	Units of Measure	Quantity
N	Base Period Average Electricity Sold	MWh	
O	Reporting Year Electricity Sold	MWh	
P	Reporting Year Incremental Electricity Sold (O – N)	MWh	
Q	Reporting Year Total Emissions from Electricity Sold*	metric tons CO <sub>2</sub> e	
R	Reporting Year Emissions Intensity of Electricity Sold (Q/O)	metric tons CO <sub>2</sub> e /MWh	
S	Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	
T	Emission Reductions ((S – R) * P)	metric tons CO <sub>2</sub> e	

\*Include emissions from supplemental fossil fuel use only.

5. Calculate Changes in Nitrous Oxide Emissions From Use of Anaerobic Digester

Item	1	2	3
	Description	Units of Measure	Quantity
U	Base Period Average Annual Nitrous Oxide Emissions	metric tons CO <sub>2</sub> e	
V	Reporting Year Quantity of Nitrous Oxide Emissions	metric tons CO <sub>2</sub> e	
W	Change in Nitrous Oxide Emissions (V – U)	metric tons CO <sub>2</sub> e	

6. Summarize Emission Reductions

Item	Description	Units of Measure	Emission Reductions		
			3	4	5
			Direct	Avoided	TOTAL
X	Increase in Methane Captured and Utilized	metric tons CO <sub>2</sub> e			
Y	Carbon Dioxide Displaced from Electricity Used Onsite	metric tons CO <sub>2</sub> e			
Z	Carbon Dioxide Displaced from Electricity Sales	metric tons CO <sub>2</sub> e			
AA	Change in Nitrous Oxide Emissions	metric tons CO <sub>2</sub> e			
BB	Net Change in Emissions (X + Y + Z – AA)	metric tons CO <sub>2</sub> e			

7. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

<input type="text"/>									
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8. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

9. Identify the Cause(s) of the Emission Reduction(s) (*check all that apply*):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

10. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part D. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	



2. Enter Emission Coefficient and Calculate Emissions

Item	1	2	3
	Description	Unit of Measure	Quantity
B	Coefficient for Net Emission Reductions*		
C	Displaced CO <sub>2</sub> Emissions from Using Fly Ash in Concrete in Base Period (A6*B)	metric tons CO <sub>2</sub> e	
D	Displaced CO <sub>2</sub> Emissions from Using Fly Ash in Concrete in the Reporting Year (A7*B)	metric tons CO <sub>2</sub> e	

\*1.00 metric tons CO<sub>2</sub>e/metric ton fly ash or 0.91 metric tons CO<sub>2</sub>e/short ton fly ash (Table 2.3, Technical Guidelines)

**Part C. Emission Reductions**

1. Calculate Reduction in Indirect Emissions

Item	1	2	3
	Description	Unit of Measure	Quantity
E	Indirect Emission Reductions (D-C)	metric tons CO <sub>2</sub> e	

2. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

--	--	--	--	--	--	--	--	--	--

3. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emission (optional):

**Part D. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	

## Addendum B13. Demand-Side Management and Other Reduction Programs

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

### Part A. Action Identification

If you are reporting more than one program, copy Part A and complete for each program.

1. Enter Name of Program: _____
2. Enter Location of Demand-Side Management Program City: _____ State (if domestic subentity): _____ Country (if foreign subentity): _____
3. Enter Date Program Began: Month _____ Year _____
4. Provide Summary Description of Program: _____ _____ _____ _____
5. Check the Applicable Box(es) to Indicate What the Program Provides to Very Small Emitters (entities that typically emit below 500 tons of CO <sub>2</sub> e per year): <input type="checkbox"/> Information or other technical assistance <input type="checkbox"/> Financial incentives <input type="checkbox"/> Direct installation or investment <input type="checkbox"/> Other non-commercial services
6. Identify Sector(s) of Very Small Emitters Targeted (please check all that apply) <input type="checkbox"/> Residential <input type="checkbox"/> Small industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Other, specify: _____
7. Describe Program Evaluation Method: _____
8. Enter Name and Describe Qualifications of 3 <sup>rd</sup> Party Verifier Name: _____ Qualifications: _____ _____
9. Enter Annual Energy Usage Reductions in Reporting Year (if not applicable, go to Question 10) Unit _____ Quantity _____
10. Enter Greenhouse Gas Emission Reductions in Reporting Year (metric tons CO <sub>2</sub> e) _____
11. Do the Reductions Qualify for Registration? <input type="checkbox"/> Yes <input type="checkbox"/> No To register reductions, the DSM or other program must meet all of the following criteria: <ul style="list-style-type: none"> <li>• The DSM or other program must be funded by the reporting entity.</li> <li>• The estimated effects reported must first occur after the entity's start year and must cause a reduction of the total emissions of residential or other very small emitters.</li> <li>• The qualifying program must provide information or other technical assistance, financial incentives, direct installation or investment, or other non-commercial services to very small emitters to assist them achieving emission reductions recognized by these guidelines.</li> <li>• Program evaluations must be performed and/or certified by an independent and qualified third party verifier. The third party must certify that the estimated annual energy usage or emission reductions were estimated in accordance with these guidelines.</li> </ul>

**Part B. Emission Reductions**

1. Summarize Energy Savings and Greenhouse Gas Emission Reductions by Program:

1	2	3	4	5
Program Name	Total Energy Savings		Total Emission Reductions (CO <sub>2</sub> e)	
	Unit	Amount	Unit	Amount
<b>Total Emission Reductions</b>				

2. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

--	--	--	--	--	--	--	--	--	--

3. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	

### Addendum B14. Combined Heat and Power

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

#### Part A. Action Quantification

##### 1. Enter Activity Data

Item	1	2	3
	Description	Units of Measure	Quantity
<b>Base Period Average</b>			
A	Total Fuel Use	MMBtu	
B	Total Thermal Generation	MMBtu	
C	Total Electrical Generation	MWh	
D	Thermal Exports	MMBtu	
E	Electricity Exports	MWh	
<b>Reporting Year</b>			
F	Total Fuel Use	MMBtu	
G	Total Thermal Generation	MMBtu	
H	Total Electrical Generation	MWh	
I	Thermal Exports	MMBtu	
J	Electricity Exports	MWh	
K	Thermal Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MMBtu	
L	Electricity Avoided Emissions Benchmark	metric tons CO <sub>2</sub> e /MWh	

##### 2. Allocate Fuel Use to Each Generation Stream

Item	1	2	3
	Description	Efficiency <sub>Thermal</sub> *	Fuel Use (MMBtu)
<b>Base Period</b>			
M	Thermal Fuel Use = B / Efficiency <sub>Thermal</sub>		
N	Electrical Fuel Use = A – (B / Efficiency <sub>Thermal</sub> )		
<b>Reporting Year</b>			
O	Thermal Fuel Use = G / Efficiency <sub>Thermal</sub>		
P	Electrical Fuel Use = F – (G / Efficiency <sub>Thermal</sub> )		

\*If the efficiency of the thermal energy generation (Efficiency<sub>Thermal</sub>) is unknown, reporters may use a default value of 0.8.

##### 3. Calculate Emissions\*

Item	1	2
	Description	Emissions (metric tons CO <sub>2</sub> e)
<b>Base Period</b>		
Q	Total Thermal Generation Emissions	
R	Total Electricity Generation Emissions	
<b>Reporting Year</b>		
S	Total Thermal Generation Emissions	
T	Total Electricity Generation Emissions	

\*Derive from fuel use values M through P using the methods in Chapter 1, Part C of the Technical Guidelines (Stationary Combustion).

4. Calculate Emissions Associated With Thermal and Electrical Energy Exported and Used Onsite

Item	1	2	3
	Description	Units of Measure	Emissions
<b>Base Period</b>			
U	Exported Thermal Generation Emissions $((D / B) * Q)$	metric tons CO <sub>2</sub> e	
V	Exported Electrical Generation Emissions $((E / C) * R)$	metric tons CO <sub>2</sub> e	
W	Onsite Thermal Generation Emissions $(Q - U)$	metric tons CO <sub>2</sub> e	
X	Onsite Electrical Generation Emissions $(R - V)$	metric tons CO <sub>2</sub> e	
<b>Reporting Year</b>			
Y	Exported Thermal Generation Emissions $((I / G) * S)$	metric tons CO <sub>2</sub> e	
Z	Exported Electrical Generation Emissions $((J / H) * T)$	metric tons CO <sub>2</sub> e	
AA	Onsite Thermal Generation Emissions $(S - Y)$	metric tons CO <sub>2</sub> e	
BB	Onsite Electrical Generation Emissions $(T - Z)$	metric tons CO <sub>2</sub> e	

**Part B. Emission Reductions**

1. Calculate Direct Emission Reductions From Onsite Energy Use (*Note: Reductions can be calculated using either the Changes in Emissions Intensity method or the Changes in Absolute Emissions method. Reporters should select one method, and use the appropriate formulas provided*)

a. Calculate Changes in Emissions Intensity From Energy Used Onsite

Item	1	2	3
	Description	Units of Measure	Direct Emissions
CC	Emission Reductions from Thermal Generation Used Onsite $((Q / B) - (S / G)) * (G - I)$	metric tons CO <sub>2</sub> e	
DD	Emission Reductions from Electrical Generation Used Onsite $((R / C) - (T / H)) * (H - J)$	metric tons CO <sub>2</sub> e	

b. Calculate Absolute Changes in Emissions From Energy Used Onsite

Item	1	2	3
	Description	Units of Measure	Direct Emissions
EE	Emission Reductions from Thermal Generation Used Onsite $(W - AA)$	metric tons CO <sub>2</sub> e	
FF	Emission Reductions from Electrical Generation Used Onsite $(X - BB)$	metric tons CO <sub>2</sub> e	

2. Calculate Emission Reductions Associated With Energy Exports

a. Calculate Thermal Energy Emission Reductions Due to Improvements in Historical Emissions Intensity

Item	1	2	3
	Description	Units of Measure	Emission Reductions
GG	Emission Reductions $((Q / B) - (S / G)) * D)$	metric tons CO <sub>2</sub> e	

b. Calculate Thermal Energy Emission Reductions Due to Incremental Changes in Generation

	1	2	3
Item	Description	Units of Measure	Emission Reductions
HH	Emission Reductions $(K - (S / G)) * (I - D)$	metric tons CO <sub>2</sub> e	

c. Calculate Electricity Emission Reductions Due to Improvements in Historical Emissions Intensity

	1	2	3
Item	Description	Units of Measure	Emission Reductions
II	Emission Reductions $((R / C) - (T / H)) * E$	metric tons CO <sub>2</sub> e	

d. Calculate Electricity Emission Reductions Due to Incremental Changes in Generation

	1	2	3
Item	Description	Units of Measure	Emission Reductions
JJ	Emission Reductions $(L - (T / H)) * (J - E)$	metric tons CO <sub>2</sub> e	

3. Summarize Emission Reductions

	1	2	3
Item	Description	Units of Measure	Quantity
KK	Reductions Associated with Onsite Energy Use (CC + DD) or (EE + FF)	metric tons CO <sub>2</sub> e	
LL	Total Emission Reductions from Energy Generation and Exports (GG + HH + II + JJ)	metric tons CO <sub>2</sub> e	
MM	Total Emission Reductions (KK + LL)	metric tons CO <sub>2</sub> e	

4. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

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5. Describe Actions That Were the Likely Causes of the Reductions Achieved:

6. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

7. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4
Name of Recipient	Gas	Units	Amount
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
	CO <sub>2</sub> e	metric tons	
<b>TOTAL</b>	CO <sub>2</sub> e	metric tons	

## Addendum B15. Other Action-specific Reductions

If Reporting Subentities, Enter Name of Subentity: \_\_\_\_\_

### Part A. Action Identification

1. Explain Why It Is Not Possible to Use Any of The Methods in Addendum B1-B14

2. Enter Date Action Was Initiated:    Month\_\_\_\_\_            Year\_\_\_\_\_

3. Was the Action Reported Last Year?  
 Yes             No

4. Identify Activities Affected by the Action:

5. Identify Equipment Affected by the Action:

6. Identify the Emission Sources Affected by the Action:

**Part B. Emission Reductions Computation**

1. Enter Activity Data, Emission Coefficients, and Conversion Factors

Item	1	2	3
	Description	Units of Measure	Quantity
A			
B			
C			
D			
E			
F			
G			
H			
I			
J			

2. Enter Equation(s) Used to Calculate Emissions and Emission Reductions in Question 3:

3. Calculate Emission Reductions

Item	Description	Units of Measure	Source of Emissions Affected		
			3	4	5
			Direct Emissions	Indirect Emissions from Purchased Energy	Other Indirect Emissions
K	Base Period Emissions	metric tons CO <sub>2</sub> e			
L	Reporting Year Emissions	metric tons CO <sub>2</sub> e			
M	Registered Emission Reductions (K - L)	metric tons CO <sub>2</sub> e			
N	Reported Emission Reductions (K - L)	metric tons CO <sub>2</sub> e			

4. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [Enter codes from Appendix M]

5. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

6. Identify the Cause(s) of the Emission Reduction(s) (check all that apply):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

7. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (metric tons CO<sub>2</sub>e)

1	2	3	4	5
Name of Recipient	Emissions Type*	Gas	Units	Amount
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
		CO <sub>2</sub> e	metric tons	
<b>Total Direct Emission Reductions</b>		CO <sub>2</sub> e	metric tons	
<b>Total Indirect Emission Reductions from Purchased Energy</b>		CO <sub>2</sub> e	metric tons	
<b>Total Other Indirect Emission Reductions</b>		CO <sub>2</sub> e	metric tons	

\*Direct, Indirect from Purchased Energy, Other Indirect.



2. Identify Types of Actions That Were the Likely Cause of the Reductions Achieved [*Enter codes from Appendix M*]

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3. Describe the Actions That Were the Likely Causes of the Reductions Achieved:

4. Identify the Cause(s) of the Emission Reduction(s) (*check all that apply*):

- Voluntary action
- Plant closing
- Government requirement
  - Federal requirement
  - State requirement
  - Local requirement

5. Summarize Benefits and Costs of the Actions Taken to Reduce Greenhouse Gas Emissions (optional):

**Part C. Distribution of Emission Reductions to Other 1605(b) Reporters**

1. Where Applicable, Enter Emission Reductions Distributed to Other 1605(b) Reporters (kilograms)

1	2	3	4
Name of Recipient	Gas	Units	Amount
		kilograms	

## **Addendum C**

### **Country-specific Factors Used to Estimate Emissions from Foreign Sources**



3. Document Reporter-defined Emission Factors.

